THE NORTH CENTRAL ASSOCIATION QUARTERLY

Volume XXVI CONTENTS FOR APRIL Number 4

PAGE

ASSOCIATION NOTES AND EDITORIAL COMMENT 309
The Schools, the Public, and the Pressure of Non-competitive Events—"Thanks, Edgar!" —Proposed Study of the Workshop as an In-Service Education Procedure—Planned Innovations in Student Teaching at Northwest Missouri State College—Program for the Fifty-seventh Annual Meeting of the Association—Notes from the Field—Contributors to This Issue.

NEXT STEPS IN THE STUDY OF HIGH SCHOOL-COLLEGE RELATIONS . . . *J. Andrew Holley* 320

QUALITY EVALUATION OF D AND F GRADES—A SURVEY OF CURRENT PRACTICE . . . . . *Dwight B. Yntema* 332

A CHURCH COLLEGE RE-EXAMINES ITS PURPOSE . . . . . *L. L. Haynes, Jr.* 342

DEALING WITH HIGH SCHOOL FRATERNITIES AND SORORITIES: A PANEL DISCUSSION . . . . . *E. H. Griswell* 345

EDUCATION OF TEACHERS IN A PERIOD OF NATIONAL EMERGENCY: A PANEL DISCUSSION . . . . . *John E. Jacobs* 347

INNOVATING PRACTICES IN SCHOOLS: A PANEL DISCUSSION. . . . . *Earl R. Sifert* 350

CONTRIBUTIONS OF INDIANIANS TO THE WORK OF THE NORTH CENTRAL ASSOCIATION . . . . . *Chauncey Gordon Winston* 354

GROWTH IN GENERAL EDUCATION . . . . . *Sister Mary Josetta, R.S.M.* 361

STATISTICAL INFORMATION ABOUT SECONDARY SCHOOLS ACCREDITED BY THE ASSOCIATION, 1950–51 . . . . . *Edgar G. Johnston* 417

INDEX TO VOLUME XXVI 426

THE NORTH CENTRAL ASSOCIATION QUARTERLY

Volume XXVI APRIL 1952 *Number 4*

ASSOCIATION NOTES AND EDITORIAL COMMENT

THE SCHOOLS, THE PUBLIC, AND THE PRESSURE OF NON-COMPETITIVE EVENTS

READERS of these columns are aware of the attention which the Association gives to any proposal submitted by a member high school or college or even by a single person in any of the three Commissions. Merit is the only criterion applied to any serious suggestion for action.

The question of contests is a case in point. Probably George Manning, principal of the senior high school at Muskegon, Michigan, should receive more credit than any one else for driving home the need for regulatory action in this troublesome area of administration. Before both the Michigan Secondary School Association and in the meetings of the Commission on Secondary Schools, George untiringly pioneered this idea. Every high school principal in the North Central Association, and probably on the rolls of the National Association of Secondary School Principals, as well, now benefits from the action of the North Central upon this question because the good word has got around far outside North Central territory.

To the foregoing should be added the present grass-roots attention that competitive athletics is receiving. Here the Association moved, not because the American Council on Education had appointed a committee to "clean up college athletics,"—indeed, it may fairly be said that the North Central's intention to proceed antedated the Council's announcement—but because the high schools of the Association created a literal ground swell of sentiment that something should be done; and through the members of the Commission on Secondary Schools who sit on the Executive Committee of the Association their wishes were carried to that central body. Under the capable leadership of J. B. Edmonson, handpicked for the job, it may be surmised that the committee on athletics will have a practical impact that will not characterize the work of the A.C.E. group.

But still another type of demand, somewhat akin to contests and much more difficult to evaluate, is still upon the schools: canvasses, drives, "days," "weeks," and the like, all of which represent the special interests of worthy civic organizations which cannot be disregarded.

For a decade C. C. Trillingham, County Superintendent of Schools, Los Angeles County, California, has been issuing to his official constituents a *Monthly Bulletin* of news. In the February, 1952, number and under the caption, "Meeting Some of Our Pressures," he talks, not only about contests, but also about the type referred to above. In part he says,

> . . . there is a long list of special days, weeks, or events which schools are called upon to observe in addition to the annual anniversary observances required by law. For example, among such events facing the schools in the immediate

future are Brotherhood Week, Conservation Week, Public Schools Week, and Invest in America Week.

. . . there are the drives for money such as the Community Chest, the American Red Cross, and the March of Dimes.

. . . there are the stirring pleas that schools help in the drives for clothing and other needed commodities for over-seas distribution. These include the Junior Red Cross, Save the Children Federation, C.A.R.E., the Heifers for Relief Project, and the like. These organizations base their appeals not only on the great human needs that exist in many parts of the world, but also on the conviction that American children need the educational experience of learning to share with the less fortunate.

After pointing out the individual worthiness of most of these events and projects, Trillingham says that the total combination tempts the busy school official to throw up his arms in desperation and sidestep the whole array. "On the other hand," he goes on to say, "to ignore all of these appeals would be poor public relations indeed."

To this every schoolman agrees; but he would also say, what can be done about it? After proposing evaluation of such requests along lines which the North Central has adopted for contests, Trillingham makes the further suggestion:

. . . allocate proper assignments to appropriate grade levels or curriculum area. For example, Conservation Week might be referred to the ninth and tenth grade science classes, Brotherhood Week to the eleventh and twelfth grade social studies, while Invest in America Week might be assigned to business education classes. Such a plan would probably call for committee study and recommendation and might finally involve adoption of reasonable administrative or board policies for guiding future action and for safeguarding the schools against those groups that wish to use them for "political" or "commercial" advantages.

As to contests, the North Central Association has already provided such safeguards; but, obviously enough, work still remains to be done in this other area.

HARLAN C. KOCH

"THANKS, EDGAR!"

THE EDITOR'S attention has been called to a vast geographical—and editorial—error that appears on page 289 of the January number of the QUARTERLY. There the Editor says that Wyoming withdrew from the Association in July, 1951. What he should have said is that *Montana* took that action. Quite properly the alert eye of Edgar G. Johnston, Secretary of the Commission on Secondary Schools, spotted the mistake. No, it was not typographical; merely amnesic, since the Editor generally has to prepare materials for the printer with his right hand, while doing some unrelated thing with his left. Wyoming is still safely—and happily—in the fold.

PROPOSED STUDY OF THE WORKSHOP AS AN IN-SERVICE EDUCATION PROCEDURE

THE PROGRAM of education in the United States has not been made from blueprints. Neither has it come about by accident. It has evolved. Just as the objectives of government and the needs of the people have changed and enlarged, so have the concepts of education changed in relation to responsibilities and to the kind and the number of services to be rendered through the educational program. As society became progressively complex through economic, political and social changes, the task of the school which serves this society has likewise become complex.

One cannot review the evolution of the educational program in this country without a feeling of satisfaction and pride as it has attempted, and in so many ways succeeded, in keeping step with the new and enlarged functions given it. It is to the credit of the teachers that they have sensed and accepted their evolving role. They have been flexible enough to adapt their methods and practices to meet the

challenge presented them by an ever changing and expanding panorama of boys and girls converging on schools.

A brief glance into the records of teachers will reveal a tremendous increase in their training and preparation during the past two decades or more. A recent study made in Indiana showed that 87 percent of the city teachers, 73 percent of the town teachers and 52 percent of the township teachers had four years of college training.[1] Of these, 32 percent had more than the Bachelor's degree and 20 percent had the Master's degree or more. The number of high school teachers with less than four years training is negligible in the state and almost 60 percent have five years of training to their credit, with 6,457 teachers, more than 26 percent of all of the teachers in the state, holding the Master's degree. The rate of growth and improvement in training and preparation of Indiana teachers is typical of improvement in general of teachers throughout the United States. A total of 430,000 degrees conferred by higher institutions of learning during the year ending June 30, 1951, set a record, the Office of Education announced. Of this number more than 50,000 were Master's degrees and more than 5,000 Doctor's degrees, with a high percentage of both Master's and Doctor's degrees being earned by teachers. This reflects higher salaries and salary schedules which place a premium on increased training. But it reflects more than this. It reflects a new professional interest on the part of teachers and a new desire to make themselves more effective in their work.

Teachers have utilized various methods of In-Service Education. They have kept themselves growing and improving in service through the media of summer school attendance, extension and evening classes, correspondence courses, institutes, conferences, travel and other forms of study. An increasing number of teachers are taking advantage of the Workshop for additional training.

This research project concerns itself with the Workshop as an In-Service Education procedure. The name "Workshop" is applied to many forms of in-service education procedures designed to help teachers secure new or modified points of view, new ideas, new methods and new inspiration for their profession and work.

There seems to be no universal or uniform concept of the term "Workshop." It is a name given to one type of In-Service Education. Many of the procedures followed in providing teachers with opportunity for growth differ in length of time of operation. They differ in type of organization, in the extent and kind of facilities thought necessary for efficiency of operation, in the frequency of meetings, in the use of leadership and in the agencies sponsoring them. In this study these differences are recognized and therefore exploration is being made of the experiences provided by Workshops sponsored by local school corporations, by single schools within a school corporation, by groups of schools which cluster around natural geographical areas, those sponsored by colleges and universities and those conducted by professional agencies directly and indirectly related to education.

It is the purpose of this investigation to find, if possible, the characteristics of the Workshop which distinguish it from other In-Service Education procedures. What are its objectives? What are the best ways for planning the Workshop? What are some of the elements of administration which are

[1] Indiana School Study Commission, "An Evaluation of Indiana Schools," 1948–49, p. 211.

important? What seem to be the best practices of internal organization of the group for effective work? What is the role of the leader and consultant in its operation. How is their role different if at all, from their role in other In-Service Education procedures? These and other questions are being asked and it is hoped that answers will be found.

The study embraces some member institutions of the North Central area and a few institutions in other sections of the United States selected at random and explored for purposes of comparison. Three types of questionnaires are being used, designed to record respectively the experiences of teachers attending workshops during the past two years, of leaders and consultants of workshops and of institutions and agencies sponsoring them. From the questionnaire it is expected to secure some purposes of attending or sponsoring workshops, some information about the facilities necessary, but more about the outcomes of this type of activity from the points of view of those participating as students and those directing them. The questionnaire technique is being supplemented by direct visitation of twenty colleges and universities located in the Central and Western states which have carried on extensive workshop programs. Visits have been made, also, to city and township school systems in five states, all of which have had considerable experience with this type of In-Service Education.

The study is sponsored by the Sub-Committee on In-Service Training of Teachers of the Commission on Research and Service. It is directly supervised by Dr. R. W. Holmstedt, Assistant Dean and Professor of School Administration, School of Education, Indiana University. The selection of colleges and universities and school systems of the North Central area used in the study was made upon the suggestion of the various state chairmen. Workshop leaders with adequate experience were recommended by the schools involved in the study and the names of participants were supplied by the institutions and agencies sponsoring workshops. Sixty colleges, universities and agencies; 60 schools and/or school corporations; 100 resource leaders and consultants and 1,500 participants are assisting in the project. The wide spread interest in discovering workshop practices, policies and plans of operation, is clearly indicated by the almost universal acceptance of the invitation to share in the study and in the exchange of experiences. It is hoped that the outcomes may point the way to an even wider acceptance and use of the Workshop idea as an In-Service Education procedure.

J. R. MITCHELL,
Purdue University,
West Lafayette, Indiana.

PLANNED INNOVATIONS IN STUDENT TEACHING AT NORTHWEST MISSOURI STATE COLLEGE[1]

PROBABLY no experiences in the educational preparation of teachers are more important than the totality of activities in which students participate when enrolled in student teaching. Certainly, the time is past when teacher education institutions and their students may look to student teaching merely as a "course" which gives only an opportunity for the observation and "practice" of teaching.

[1] Since 1921 this institution has been a member of the North Central Association. The interesting departure from the "course" method to an integrated program for student teaching which the writer describes will be published soon by the Missouri Department of Public Education in *Missouri Schools.* It is presented here also for the convenience of teacher-training members of the Association which might otherwise miss it.—EDITOR.

Currently, Northwest Missouri State College is giving careful thought and preparation to a change from a three-quarter school year to a two-semester year which will be effected in the fall of 1952. Foremost among the considered improvements in teacher education under the semester organization are plans for continuous expansion in provisions for the professional laboratory experiences of student teachers. Two considerations are being kept constantly in mind as the change is being made: first, any change must in no way penalize students presently enrolled or who have unfinished degrees at the college; and, second, planning must be done now for future expanded experiences in order to provide for minimum change in general requirements.

At the present time, the college requires two quarters of directed teaching with the opportunity for both elementary and secondary students to elect a third quarter. In addition to directed teaching experiences, including observation, gradual participation, and full responsibility for teaching, for one hour a day student teachers participate in the kinds of things teachers do in addition to instruction. Among these laboratory experiences are varying amounts of the following: conferences with supervising teachers; noon-hour duties which include supervised experience in the school cafeteria, the halls and grounds, or noon-hour recreational activities; supervised experience in study halls or the library; and observation or participation in out-of-class activities and parent meetings.

Each quarter, all student teachers attend four seminar meetings at which professional topics, not normally a part of course work, are presented and discussed. The first seminar is an orientation followed by an informal tea to enable the students to get acquainted with the total supervising faculty and other student teachers. Student teachers submit weekly reports of their experiences to the Director of Student Teaching. These reports serve as a self-evaluation device for the student teachers and as a means of keeping the Director informed about the total program of directed teaching.

With the exception of a supplementary experience of a month off campus for vocational home economics majors, all directed teaching is conducted on campus in the Horace Mann Laboratory School. The laboratory school is housed in a well equipped building and has qualified full-time supervising teachers for each grade and subject. The school has an enrollment of over four hundred and includes a nursery school, a kindergarten, and grades one through twelve. With the present college enrollment, the school is adequate for an increase in directed teaching experiences.

The basic changes being worked on are in terms of additional hours to be spent in student teaching and the possibilities of integrating other educational courses with directed teaching. Student teachers at both elementary and secondary levels will continue to be assigned the additional laboratory experiences mentioned above with some expansions, particularly in the area of community activities.

The significant change in elementary directed teaching is from a one-hour period to a half-day which includes at least one block of two consecutive hours for student teaching, augmented by additional laboratory experiences. This change will be a requirement for all elementary degree majors and strongly recommended for two-year students. Six semester hours of credit in directed teaching will be earned. It will be possible for some students, if teaching situations permit, to in-

crease their teaching experiences beyond the half-day by the addition of another three semester hours of credit in directed teaching or by integrating a theory or methods course with directed teaching.

For secondary majors, the block of a half-day teaching will not be required initially, but it will be available on an elective basis and will be urged in subject areas where the teaching situations permit. For five semester hours of credit, secondary students will spend one hour daily in directed teaching and will have the preceding or succeeding hour available for experience in study hall supervision, library supervision, and conferences. Secondary majors will also participate in the additional laboratory experiences which have been described earlier. By electing an additional three semester hours in directed teaching, the half-day block will be effected. It will also be possible to extend the laboratory experiences well beyond the half-day by integrating the two-semester-hour special methods courses with the directed teaching. All of the experiences and the ten semester hours of credit, thus available, would be under the direction of the supervising teacher of the student. The above plans for elementary and secondary student teachers will be implemented this fall. Plans for a full semester of Education credit with the traditional subject-matter courses in Education integrated into a full day of directed teaching are also being made.

For elementary majors, the plans envisage the following sequence: educational psychology (3.0) and introductory education course (2.0) during the freshman and sophomore years; child psychology (3.0) and organization and administration of elementary education (3.0) during the junior year; and a full semester of directed teaching (12.0) integrated with the general methods in elementary education (2.0) in the senior year. Thus the total is twenty-five semester hours which is the Education requirement for degree elementary majors at the college. In their professional preparation, elementary majors also take a number of special methods courses listed under subject departments during their first three years.

For secondary majors, the sequence would be as follows: educational psychology (3.0) and introductory education course (2.0) during the freshman and sophomore years; adolescent psychology (2.0) and general methods (2.0) during the junior year; and a full semester of directed teaching (10.0) integrated with special methods (2.0) and the organization and administration of secondary education (2.0) in the senior year. The total is twenty-three semester hours, two more than the twenty-one semester hours in Education now required for secondary degrees.

The full semester of integrated educational experiences in directed teaching would not necessarily be required, but it would be worked out in as many instances as possible. An expansion in this direction would necessitate additional off campus laboratory facilities. Nearby school administrators have already indicated an interest and willingness to cooperate in this professional program in teacher education.

With the changes to be accomplished immediately and with the additional expansion of professional laboratory experiences in student teaching which is possible and essential to our plans, the staff at Northwest Missouri State College feels that it is making a distinctive contribution in the education of teachers, particularly in an area that provides increased actual partici-

pation in the kinds of things teachers do.

LEON F. MILLER, *Chairman,*
Division of Education.

ABBREVIATED ANNOUNCEMENT OF THE PROGRAM FOR THE FIFTY-SEVENTH ANNUAL MEETING OF THE ASSOCIATION MARCH 31–APRIL 4, 1952

AS THIS ISSUE of the QUARTERLY was being readied for the press, the following brief announcement of the program for the Fifty-Seventh Annual Meeting arrived. As usual, this meeting will be held in the Palmer House, Chicago. Since this issue—the April number—will not reach its readers before the meeting and since the complete program is not yet available, the following preview provides information for non-attendants about the character of the 1952 sessions.

The statement released by the Executive Committee follows:

Believing that some public confusion concerning present day education has been caused by certain current criticisms which have misrepresented it, the Executive Committee is happy to announce a program for the Annual Meeting of the Association designed to present a constructive statement of the nature and accomplishments of modern education. The program has been planned about the theme "Education: Its Contribution to the American Way of Life." The general meetings of the Association are centered upon various aspects of this theme and designed to present positive statements concerning the purposes of modern education, its methods and its achievements in preparing youth for life in America. The following outstanding leaders in education will address the general meetings of the Association:

Ernest O. Melby, Dean, School of Education, New York University
T. R. McConnell, Chancellor, University of Buffalo
Will French, Professor of Education, Teachers College, Columbia University
George W. Ebey, Assistant Superintendent of Schools, Portland, Oregon
Arthur S. Adams, President, The American Council on Education
Robert S. Gilchrist, Assistant Superintendent of Schools, Pasadena, California

These distinguished educators are especially well qualified to present discussions which will be helpful in clarifying understanding of the aims, practices, and achievements of modern education. As will be noted in the programs outlined below, the three Commissions have also planned stimulating programs and secured prominent educators and laymen to discuss problems of immediate concern to their membership and related to the central theme.

The meetings on Monday, March 31, and Tuesday, April 1, are organized to take care of the official business of the three Commissions. Only those persons who have been invited in advance are expected to attend these meetings.

Persons attending the Annual Meeting should make their hotel reservations early. Although the meetings of the Association are held in the Palmer House, there are many good hotels in the immediate vicinity where good accommodations may be secured.

The following outlines briefly the programs of the Commissions and the General Association. Copies of the official program will be available at the Annual Meeting.

MONDAY, MARCH 31

9:00 A.M. Meeting of the Chairmen of the State Committees of the Commission on Secondary Schools (serving as the Reviewing Committee on New Schools).
1:30 P.M. Meeting of the State Committees of the Commission on Secondary Schools.
4:00 P.M. Meeting of the Chairmen, Assistant Chairmen and Secretaries of Reviewing Committees of the Commission on Secondary Schools.
7:30 P.M. Meeting of the Reviewing Committees and the Commission on Secondary Schools.

TUESDAY, APRIL 1

8:30 A.M.–4:00 P.M. Meetings of the Reviewing Committees of the Commission on Secondary Schools.
2:30 P.M. Executive Session of the Commission on Colleges and Universities (open to Commission members only).
4:00 P.M. Meeting of State Chairmen and Chairmen of Reviewing Committees of the Commission on Secondary Schools.

WEDNESDAY, APRIL 2

9:30 A.M. General Business Meeting of the Commission on Secondary Schools (open to all persons interested).
9:30 A.M. Executive Session of the Commission on Colleges and Universities (open to members of the Commission only).
9:30 A.M. Conferences of the Commission on Research and Service.

J. Fred Murphy, Broad Ripple High School, Indianapolis, Indiana, General Chairman.

1. "What Effect Should Universal Military Training Have on Your School or Your College Offerings?"—P. M. Bail, President, University of Omaha, Omaha, Nebraska, Chairman.
2. "How Can We Best Improve the Public Schools and Their Public Relations?"—William A. Evans, Administrative Assistant, Indianapolis, Indiana, Chairman.
3. "Social Experiences and High School Organizations"—B. L. Shepherd, Assistant Superintendent of Secondary Schools, Tulsa, Oklahoma, Chairman.
4. "Problems in Teacher Education Peculiar to Complex Institutions"—F. E. Henzlik, Dean, Teachers College, University of Nebraska, Lincoln, Nebraska, Chairman.
5. "Student Teaching—How to Improve Its Effectiveness"—George E. Hill, Professor of Education, Ohio University, Athens, Ohio, Chairman.
6. "Critical Issues Facing the School Library"—Charles M. Allen, University High School, University of Illinois, Urbana, Illinois, Chairman.

2:00 P.M. Open Meeting of the Commission on Research and Service for Committee Reports.

W. Fred Totten, President, Flint Junior College, Flint, Michigan, Chairman.

1. Committee on Teacher Education—F. E. Henzlik, Dean, Teachers College, University of Nebraska, Lincoln, Nebraska.
2. Committee on Experimental Units—J. C. Stonecipher, Director of Secondary Education, Des Moines Public Schools, Des Moines, Iowa.
3. Committee on Current Educational Problems—P. M. Bail, President, University of Omaha, Omaha, Nebraska.

2:30 P.M. General Meeting of the Commission on Colleges and Universities.

Theme: "Intercollegiate Athletics."

Speakers: Walter Byers, Executive Director, National Collegiate Athletic Association.

Charles O. Johnson, Executive Sports Editor, *The Minneapolis Star* and *The Minneapolis Tribune*.

2:30 P.M. Professional Meeting of the Commission on Secondary Schools.

Theme: "The Layman's Stake in Education."

Earl R. Sifert, Proviso Township High School, Maywood, Illinois, Chairman.

Speaking for Industry—W. H. Harvey, Director of Industrial Relations, Electromotive Division, General Motors Corporation.

Speaking for the Press—Robert B. Voris, Editor of the *Waterloo Republican*.

Speaking for Labor—Myles Horton, Educational Director of the United Packing House Workers' Union.

Speaking for Parents—Mrs. T. H. Ludlow, President, Illinois Congress of Parents and Teachers.

Speaking for School Boards—O. H. Roberts, Immediate Past President, Indiana School Boards Association.

3:30 P.M. Meeting of the Commission on Research and Service (for members only).

T. H. Broad, Principal, Daniel Webster School, Tulsa, Oklahoma, Chairman.

7:30 P.M. Discussion Groups on Problems of In-Service Education (Planned by the Sub-Committee of the Commission on Research and Service on In-Service Training of Teachers).

W. Fred Totten, President, Flint Junior College, Flint, Michigan, General Chairman.

1. "Incentives Motivating In-Service Growth of Teachers"—N. D. Cory, Superintendent of Schools, Rochester, Minnesota, Chairman.
2. "The Role of Classroom Teachers in Guidance"—M. B. Salisbury, Teacher of Biology and Psychology, Evanston Township High School and Community College, Evanston, Illinois, Chairman.
3. "Aiding Teachers in Improving Techniques of Evaluation"—Minard W. Stout, Associate Professor and Principal of University High School, University of Minnesota, Minneapolis, Minnesota, Chairman.
4. "The Co-Curricular Responsibilities of Teachers"—R. S. Cartwright, Principal, Elgin High School, Elgin, Illinois, Chairman.
5. "Improving the Teaching of Basic Skills in the Modern Secondary School"—Paul R. Pierce, Assistant Superintendent in Charge of Instruction and Guidance, Chicago Public Schools, Chicago, Illinois, Chairman.
6. "Developing International Understanding in Children and Youth"—Frank E. Sorenson, Chairman, Department of Educational Services, University of Nebraska, Lincoln, Nebraska, and United States Staff Member, 1950, UNESCO Seminar on the Teaching of Geography for International Understanding, Canada, Chairman.

THURSDAY, APRIL 3

9:30 A.M. General Meeting of the Commission on Colleges and Universities.

Theme: "The Effects of Military Requirements on Higher Institutions."
Speakers: James T. Baxter, III, President, Williams College, Williamstown, Massachusetts.
Arthur S. Fleming, President, Ohio Wesleyan University, Delaware, Ohio.

9:30 A.M. Executive Session of the Commission on Secondary Schools (open to Commission members only).

2:30 P.M. First General Meeting of the Association.
Theme: "Education: Its Contribution to the American Way of Life."
Speakers: T. R. McConnell, Chancellor, The University of Buffalo, Buffalo, New York.
Ernest O. Melby, Dean, School of Education, New York University, New York, New York.

7:30 P.M. Conference of High School Principals and the Commission on Secondary Schools.
Theme: "Pertinent Activity Practices in Secondary Schools."
Robert Fleming, Principal, South High School, Youngstown, Ohio, Presiding.
Lowell B. Fisher, Professor of Education, University of Illinois, Moderator.
Participating Principals:
F. J. Herda, Principal, Technical High School, St. Cloud, Minnesota.
Otto Hughes, Principal, University High School, Bloomington, Indiana.
Vernon Heaston, Principal, Wheat Ridge High School, Wheat Ridge, Colorado.
R. S. Cartwright, Principal, Elgin High School, Elgin, Illinois.
Demonstration by Indian Dancing Group—Elgin High School, Elgin, Illinois.

FRIDAY, APRIL 4

9:30 A.M. Second General Meeting of the Association.
Theme: "Education: Its Contribution to the American Way of Life."
Speakers: Will French, Professor of Education, Teachers College, Columbia University, New York.
George W. Ebey, Assistant Superintendent of Schools, Portland, Oregon.

2:30 P.M. Third General Meeting of the Association.
Theme: "Education: Its Contribution to the American Way of Life."
Speakers: Arthur S. Adams, President, American Council on Education, Washington, D. C.
Robert S. Gilchrist, Assistant Superintendent of Schools, Pasadena, California.

NOTES FROM THE FIELD

SOUTH DAKOTA

Evaluation of Huron High School.—During the past fall and early winter, the staff of the Huron Junior-Senior High School have been utilizing the Evaluation Criteria (1950 Edition) as an instrument for the stimulation and improvement of its own school.

Following this self-evaluation, a visiting committee composed of eighteen professional educators added validity to the project by their evaluation. The composition of the committee constituted representatives from numerous levels of our state's educational organization. Membership of the committee was made up of a college president, three college professors, several supervisors from the Department of Public Instruction, and a number of city school administrators, junior and senior high school principals, and classroom teachers. The committee was headed by Dr. Edgar Johnston, Secretary of the Commission on Secondary Schools of the North Central Association.

The evaluation followed the technique developed by the Cooperative Study of Secondary School Standards. The uniqueness of this particular N.C.A. evaluation was in the number making up the committee, the numerous educational organization levels represented, and the fact that an out-of-state educator sparked and directed the procedure and activity.

W. MARVIN KEMP, *Chairman.*
South Dakota State Committee.

WEST VIRGINIA

West Virginia High School Principals at Work.—The West Virginia High School Principals have embarked in a five-year program of study. A questionnaire was sent to each principal last spring asking him what he considered

to be some of the more important problems with which he was confronted. Replies to this questionnaire indicated two areas of need or interest; namely, supervision and curriculum development.

The President and Executive Committee of the State School Principals Association appointed an advisory committee consisting of twelve principals to plan and direct a program of study around the indicated problems. The advisory committee selected for study the problem of supervision in secondary schools. A plan of action was determined and activities began as follows:

The Principals Association in cooperation with the State Department of Education organized the state into seven regions for the purpose of holding principals' meetings. These meetings were held in the early winter and were centered around the various phases of the problem of supervision. The following questions were sent in advance to the principals for their consideration.

1. Are we as secondary school principals willing to accept supervision as a vital function of our job?
2. What avenues are open to bring about improvement in the typical West Virginia secondary school staff?
3. What kind of leadership should secondary teachers expects from their principal?
4. How can we make the improvement of learning the heart of our supervisory program?
5. Should curriculum development be one of the major objectives of our supervisory program?
6. To what extent does a principal's skill in human relations determine his success in supervision?
7. How can staff meetings be made more effective?
8. What factors should we consider in getting a proper appraisal of our supervisory program?

In each of the regions the principals divided into groups for the purpose of studying these and other pertinent problems. The findings of the smaller groups were reported back to the entire regional group and a complete report prepared for reference and study. Some of the regions had a second meeting shortly after the first of the year for further study. In their deliberations the principals attempted to indicate what they were doing that is considered to be a good practice in supervision and also how they might improve in their methods and practices.

The results of the studies that have been made in these regional meetings will be presented at the state principals conference this spring. One day of the conference will be devoted to a work shop in which the findings in relation to above questions and plans for further study will be considered. The meetings have been very successful and the groups in their evaluation felt that much progress had and can be made through this type of cooperative study.

A. J. GIBSON, *Chairman.*
West Virginia State Committee

WISCONSIN

Father Mulroy on State Committee.—In the fall of 1951 Father R. D. Mulroy, principal of Central Catholic High School at Green Bay, Wisconsin, accepted membership on the Wisconsin State Committee of the N.C.A. The school of which Father Mulroy is principal is a boys' school with an enrollment of over five hundred. He participated in the evaluation of a school in his area which is applying for membership in the association and has taken an active part in state committee activities since his appointment to the committee.

He succeeds Father J. F. Kundinger, formerly of La Crosse Aquinas High School, who resigned his membership when he was transferred to a position that did not involve administration of a secondary school.

Fall meeting of school administrators.

—Chairman Earl Sifert, of the Commission on Secondary Schools, was the main speaker at a meeting called on September 26, 1951, for administrators of North Central schools and other administrators who were interested in the work of the North Central Association.

The meeting was called by R. F. Lewis, Chairman of the Wisconsin State Committee, and First Assistant State Superintendent of Public Instruction in the State of Wisconsin. The meeting was held during the fall conference for school administrators in Wisconsin. More than one hundred school administrators attended the meeting and enjoyed the inspiring talk given by Chairman Sifert. A stimulating question and discussion period followed the main presentation. School men were agreed that a meeting of this kind did much to clarify questions concerning the functions and procedures of the North Central Association.

R. L. LIEBENBERG,
Assistant to State Chairman

CONTRIBUTORS TO THIS ISSUE

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NEXT STEPS IN STUDIES OF SCHOOL AND COLLEGE RELATIONS

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THIS REPORT summarizes the principal points brought out in a Conference on School and College Relations, held in Chicago on November 9 and 10, 1951. The conference was sponsored by the Committee on High School-College Relations of the North Central Association of Colleges and Secondary Schools. The chief purpose of the conference was to obtain suggestions as to further activities in which the committee might profitably engage. More specifically, the object was to secure advice from a few experienced school and college leaders as to how the North Central Association through the above committee might contribute to the further development and diffusion of desirable practices in the field of school and college relations.

The participants invited to this conference were: Ronald B. Thompson, Registrar and University Examiner, Ohio State University, Columbus Ohio; Robert J. Keller, Director of the Bureau of Institutional Research, University of Minnesota, Minneapolis, Minnesota; Lloyd Trump, Associate Professor of Education, University of Illinois, Urbana, Illinois; W. F. Loper, Superintendent of Schools, Shelbyville, Indiana; Ernest H. Campbell, Acting Director of Admissions, University of Missouri, Columbia, Missouri; Leon S. Waskin, Chief, Elementary and Secondary Education, Department of Public Instruction, Lansing, Michigan; Lloyd S. Michael, Superintendent, Evanston Township Schools, Evanston Illinois; Ralph L. Tomlinson, teacher and Guidance Director, Lincoln High School, Des Moines, Iowa; Miss Loretta Miller, teacher, East High School, Denver, Colorado; Arthur H. Mennes, Principal, Central High School, Sheboygan, Wisconsin. Messrs. Trump and Michael were unable to attend the conference. Harold N. Metcalf, Principal, Bloom Township High School, Chicago Heights, attended in Mr. Trump's place.

In addition, the following four members of the Committee on High School-College Relations attended the conference: Norman Burns, Associate Professor of Education, University of Chicago, Chicago, Illinois; Manning Pattillo, Jr., Associate Secretary, Commission on Colleges and Universities, University of Chicago, Chicago, Illinois; Earl Sifert, Superintendent, Proviso Township High School, Maywood, Illinois; J. Andrew Holley, Dean, School of Education, Oklahoma A. and M. College, Stillwater, Oklahoma; and Harry T. Broad, Principal, Webster High School, Tulsa, Oklahoma, who served as leader of the conference. The sixth member of the Committee on High School-College Relations is Henry G. Harmon, President, Drake University, Des Moines, Iowa.

A secondary but important purpose of the conference was to make possible an exchange of ideas among selected representatives of colleges and secondary schools in the North Central territory. It was hoped that such an interchange of ideas might contribute to a better understanding of the problems involved and to a wider knowledge of some of the more promising procedures and practices for improving school and college relations. Out of such an exchange of ideas it was felt that specific recommendations might come for the improvement of existing programs and for the establishment of desirable projects in states and regions where no such projects now exist.

CONFERENCE PROGRAM AND PROCEDURES

The Conference was organized on an informal discussion basis under the leadership of Mr. Broad. The membership of the conference was limited to ten individuals besides Mr. Broad and four other members of the Committee on High School-College Relations. The first session was devoted mainly to background reports of the origin, purposes, and activities of the Committee on High School-College Relations. A summary of the report "Cooperation Between Secondary Schools and Colleges," prepared by Manning M. Pattillo and Lorence Stout, was presented by Mr. Pattillo. The purposes of the conference were explained by Mr. Broad.

During the second session brief reports were presented of programs and activities with which conference members were connected. These reports covered a variety of types of programs in the field of school and college relations, such as the Michigan College Agreement, a state and area project; certain phases of the state university programs in Minnesota, Ohio, and Missouri; the Illinois curriculum program; and selected aspects of local and state-wide guidance and curriculum programs in Wisconsin, Michigan, Illinois, Indiana, Iowa, Ohio, Colorado, Minnesota, and Oklahoma.

The third session was spent in discussing the question: What are the major problems faced by schools, colleges and universities in this area of relationships? During the final session, the conference members considered how the Committee might serve the needs of the North Central Association schools and colleges in improving their relationships. Specific recommendations for further activity were made to the Committee.

FUNCTIONS AND ACTIVITIES OF COMMITTEE ON HIGH SCHOOL-COLLEGE RELATIONS

The original function of the Committee on High School-College Relations of the North Central Association was to design and outline a study of high school-college relationships. The Committee proposed a five-phase design, as follows: Phase One.—Defining goals and problems. Phase Two.—Setting up and conducting local cooperative demonstrations among selected colleges and their principal feeder secondary schools. Phase Three.—Coordinating local cooperative demonstrations and provide for exchange of information and experiences among groups concerned. Phase Four.—Evaluating and disseminating results of studies in phases one, two, and three. Phase Five.—Stimulating and promoting improved practices among schools and colleges.[1]

This design was approved by the Executive Committee of the Association and the Committee was authorized to proceed with Phase One. A comprehensive survey of literature in the field resulted in a report prepared by Manning M. Pattillo and Lorence Stout, entitled "Cooperation Between Secondary Schools and Colleges."[2]

In reexamining the functions of the Committee four questions were raised by Mr. Burns in the Chicago Conference. These questions are: (1) Should the North Central Association attempt to conduct projects on its own, as

[1] J. Andrew Holley, "Report of the Committee on High School-College Relations," NORTH CENTRAL ASSOCIATION QUARTERLY, XXV (October, 1950), 226–233.

[2] Manning M. Pattillo and Lorence Stout, "Cooperation Between Secondary Schools and Colleges," NORTH CENTRAL ASSOCIATION QUARTERLY, XXV (January, 1951), 313–44. (This report is available as a reprint through the office of the Secretary of the North Central Association, University of Minnesota, Minneapolis, Minnesota.)

contemplated in Phase Two of the approved design, or should the committee serve primarily as a clearing house? (2) What should be the nature of the process by which the Committee on High School-College Relations might stimulate improvements and coordinate projects and demonstrations? (3) How can we go about this process? (4) Has the Committee any responsibility for evaluation of existing projects in school and college relations, or is the function of the Committee one of accepting the evaluations made by the particular group involved? (5) Are there any implications in the activities and findings of this committee for accrediting activities of the Association?

Not all aspects of these and other questions raised during the course of the Conference were fully discussed or answered. The Committee, however, did receive many excellent suggestions, as will be indicated later in this report of the conference.

In reviewing the published report, "Cooperation Between Secondary Schools and Colleges," Mr. Pattillo summarized the issues raised by secondary school and college authorities. He indicated that changed curriculum prescriptions in college point-up limitations in previous studies in school and college relations. Differences in the philosophy of the modern high school, which is all-inclusive and non-selective in clientele and functions, and the philosophy of the college, which is selective, creates serious problems of articulation.

Three omissions from the report were noted by Mr. Pattillo. Relationships between secondary schools and colleges as influenced by recruitment and subsidies for athletes were intentionally omitted. Problems raised by such relationships are being studied by a special committee of the Association.[1] Also, the role of the community college in affecting better articulation between schools and colleges was not considered. Finally, the implications of the findings in the survey for the reorganization of the secondary school and college curricula were considered as being outside the scope of the first report.

Questions were raised by conference members as to the nature and extent of utilization of the Pattillo and Stout report, since copies of the report had been sent to all member secondary schools and colleges of the Association. Opportunities for using the report as bases for faculty study and for state and area conferences were stressed.

MICHIGAN SECONDARY SCHOOL-COLLEGE AGREEMENT

The origin and development of the Michigan Secondary School-College Agreement as a promising type of improved school and college relations was presented by Mr. Waşkin. The nature of the agreement which provides for the admission of students to college without the necessity of completing the usual sequences was outlined. The great significance of the agreement lies in the freedom given secondary schools to plan curricula suited to the needs of students, according to Mr. Waskin. In this connection, he stressed that ways and means must be found for stimulating further study and improvement of the curricula at the local community level. He indicated that while many communities were carrying on effective local curriculum studies, the college may be ahead of the secondary schools in living up to the terms of the agreement.

The vitality and appeal of the agreement program is indicated in the

[1] See THE QUARTERLY for January, 1952, pages 252-58.—EDITOR.

extent of participation, in that all accredited colleges and 137 secondary schools in Michigan had at the time of the Conference subscribed to the conditions of the Agreement.

The manner in which the Agreement program functions was discussed. Promotion of the Agreement is handled by member schools through their organizations and by the State Department of Education. The Agreement committee is thus left free to serve in a custodial and evaluative capacity.

One significant development of the Agreement program is the organization of schools and colleges into five regional associations. Through this means school and college representatives have greater opportunities to meet for the consideration of various problems of mutual interest. Through numerous meetings of regional groups of teachers, administrators, students, and laymen experiences are shared and local curriculum plans stimulated and improved.

Two major results of the Agreement program were noted by Mr. Waskin; namely, increased understanding among school and college representatives, and increased opportunities for contacts between secondary-school and college people. No doubt the first outcome is in part an outgrowth of the fact that the Agreement program has provided means for secondary-school and college people to meet frequently as equals to consider ways and means by which each group might improve its services and contribute to the fuller development of boys and girls. Along with these developments has come an increased concern on the part of schools for in-service education at the local level.

One problem faced by those engaged in the Michigan Agreement program is related to methods for sharing information. For example, Mr. Waskin indicated that one area where there is a dearth of information relates to what colleges are doing to adjust their curricula and methods to the capacities and needs of entering students. Conferences represent one excellent technique for sharing information about what is going on in schools and colleges, especially where teams of teachers and administrators from schools and colleges are in attendance. While regional newsletters are useful, they have recognized limitations. Mr. Waskin reported that colleges in Michigan have been very helpful in printing materials.

SCHOOL AND COLLEGE RELATIONS IN OHIO

One of the problems in improving school and college relations relates to college contacts with high schools. Many such contacts are frankly made for recruitment purposes. Contacts are often made by one college without regard to the best interests of students and schools involved and without regard to the visitation programs of other colleges.

In Ohio, according to Mr. Thompson, Registrar and University Examiner, Ohio State University, contacts with high schools are made on a cooperative basis. Admissions officers, registrars, and field representatives of various colleges work together arranging itineraries and in making programs for visitation. The Ohio College Association has been active in promoting such cooperative contacts and in publishing guides on high school students, their teachers and parents. In 1951, a booklet entitled *Looking Toward College* was prepared under the auspices of the Committee on High School-College Relations of the Ohio College Association. It is a guide for high school students, counselors, and parents, and

is published and distributed by the Ohio College Association.

This booklet was designed to furnish students accurate and unbiased information concerning member colleges of the Ohio College Association. The students are aided in answering such questions as: Why go to college? Who should go to college? How to choose a college? What does college cost?

A few of the many services provided by Ohio State University to schools and to entering students were briefly described by Mr. Thompson. The services of the various University agencies in counseling and guidance are fully explained in *Counseling and Guidance*, a report prepared by the Junior Council and published by the Ohio State University, 1951.

Principal-freshmen conferences conducted at Ohio State University and at other collegiate institutions offer opportunities for high school principals to gain firsthand information concerning problems encountered by entering freshmen. Following conferences between the high school principal and a few of his high school graduates, meetings are arranged with members of the instructional and administrative staff. At these meetings, high school principals raise questions based on problems revealed during conferences with freshmen. The principal discovers weaknesses in the preparation of his graduates. College representatives learn the difficult adjustments which students face in making the transition from high school to college life. There is a mutual gain in better understanding of the problems involved and of the needs of students on the part of both high school and college representatives.

FEATURES OF THE PROGRAM AT THE UNIVERSITY OF MISSOURI

One of the distinctive features of the program at the University of Missouri is the publication and distribution of attractive and readable bulletins giving information concerning educational opportunities and admissions requirements in the various schools and college of the University. The titles of recent bulletins are: *You May Go to College; Information to New Students;* and *"M" Book.*

Other features of the program at Missouri University, as presented by Mr. Campbell, Acting Director of Admissions, include planned visits to high schools, continuous or advance registration, principal-freshmen conferences, and testing and counseling services available to high schools without charge. As a variation of the principal-freshmen conference, the University invited thirty high school counselors to come to the campus for a three-day conference at University expense. By means of publications, conferences, and other services, the University of Missouri strives to assist schools in preparing students for college, and to guide students into suitable curricula at the University.

MINNESOTA STUDIES IN SCHOOL AND COLLEGE RELATIONS

Long-term intelligent planning for improving the quality of secondary-school and post-secondary-school education requires the collection and interpretation of information from carefully conducted periodic comprehensive studies. Mr. Keller, Director, Bureau of Institutional Research at the University of Minnesota, reviewed some of the major findings of a series of important studies carried out under the direction of the Minnesota Commission on Higher Education, which was created in 1947. These studies are reported in a volume entitled *Higher Education in Minnesota*, published by the University of Minnesota Press, 1950.

For example, Mr. Keller reported that a follow-up study by Anderson[1] of what happens to the graduates of Minnesota high schools nine years later indicates that the record is not improving percentage-wise in the proportion of the most able who go to college.

The study further reveals the effects of economic barriers upon college attendance, such as geographic distance from college. The following questions raised by Anderson in his study have implications for education everywhere: (a) Does Minnesota educate its most capable young people to the extent it should; do the talents of a number of Minnesota youth remain undeveloped? (b) Does Minnesota make the best use of the young people it does educate?

During the conference, Mr. Keller referred to the work of the Committee on High School Relationships, organized jointly in 1944 by the Minnesota Association of Secondary School Principals and the Minnesota Association of Colleges. A sub-committee of this committee recently completed an exploratory study of the provisions in colleges for articulating their courses with the instruction in high school.[2] This study reveals that "there is little evidence that any college has developed a systematic program for improving curriculum articulation with the high school."

Similar conditions probably exist in other states of the North Central Association. The implication is that the need for better curriculum articulation between the high school and the college is a two-way responsibility.

The University of Minnesota is attempting to meet some of its responsibilities for improving school and college relations through the efforts of the Committee on Relations of the University to Other Institutions. This committee sponsors a conference on Problems of High School Transition. The program for this conference follows an interesting pattern. The principals spend the morning with small groups of students from their schools. Questions and issues raised during these conferences are placed on cards. During a luncheon for visitors, students, and staff members, the cards are sorted and groups organized for the afternoon session.

At a recent conference, groups were organized around the following problem areas: Admissions, Orientation, Student Life and Instruction, and Guidance. In these group meetings, the questions and issues raised by students are discussed in terms of what the high schools and colleges can and ought to do to improve instructional and guidance services.

THE ILLINOIS CURRICULUM STUDY

The Illinois program is cited as an example of a state-sponsored study with broad purposes involving extensive research and curriculum revision. One of the major purposes of this program is to improve school and college relations.

The nature and scope of the Illinois Curriculum program was outlined by Mr. Metcalf, Principal of the Bloom Township High School, Chicago, Heights. He indicated that the Illinois program has recently been broadened to include the elementary schools. It is also distinctive in scope in that a large number of professional and lay groups are involved.

New college admission policies have

[1] G. Lester Anderson, "What Happens to Minnesota's High School Graduates—Nine Years Later," *Higher Education in Minnesota.* Minneapolis: University of Minnesota, 1950, pp. 102–115. (A report by the Commission on Higher Education.)

[2] Charles W. Boardman, "A Study of High School-College Curriculum Articulation in Minnesota," NORTH CENTRAL ASSOCIATION QUARTERLY, XXVI (October, 1951), 195–201.

been proposed in Illinois, specifying kinds of competence expected of entering students rather than particular course sequences. The following five criteria are recommended as providing the "best prediction of the probable success of the student in college work."

1. Score on a scholastic aptitude test.
2. Score on a test of critical reading.
3. Score on a test of writing skill.
4. Score on a simple mathematical test.
5. Evidence that the student has an intellectual interest and some effective study habits as shown by his having taken at least two years of work in one field in high school in which his grades are better than average.[1]

Recognition is given to the obligation of the high schools to provide specialized preparation for students who expect to enter professional schools. In an effort to inform the high schools of specialized needs for success in engineering courses, a bulletin, *Mathematical Needs for Students in the College of Engineering*, has been prepared. The observation was made that meeting the needs set forth in this bulletin would require four years of mathematics in high school. In Illinois, only twenty-one high schools out of nine hundred offer this much mathematics, according to Mr. Metcalf. This fact points up the recommendation of the Illinois Committee on Relations with Higher Institutions that colleges be urged to provide opportunities for specialized work with a minimum of handicap to the student.

[1] "Illinois Secondary School Curriculum Program," Bulletin No. 9, *New College Admission Requirements Recommended*. Springfield, Illinois: Vernon L. Nickell, State Superintendent of Public Instruction, 1950, p. 14. (A proposal for cooperative action by the secondary schools and colleges in Illinois.)

REPORTS FROM WISCONSIN, IOWA, AND COLORADO

According to Mr. Mennes, Principal of Central High School, Sheboygan, Wisconsin, college entrance requirements in Wisconsin colleges are becoming more flexible. A number of high schools are experimenting with core curriculum programs and with multiple-period schedules. An interesting development is the establishment of Junior College extension centers by the University of Wisconsin.

The guidance program in the Lincoln High School, Des Moines, Iowa, was briefly explained by Mr. Tomlinson. Reference was made to an excellent guidance bulletin published by Iowa Department of Public Instruction.[2]

The guidance program for college-bound students in the East High School, Denver, Colorado, was explained in detail by Miss Miller, teacher and counselor. Since a large proportion of the graduates of the East High School go to college, special emphasis is placed on preparation for college. The students are advised by means of a systematic and thorough guidance program in the choice of a college. A scholarship committee, sponsored by the Parent Teachers Association, collects information and assists worthy students in applying for scholarships in college.

In East High School, a college representative night is arranged. A general meeting is held to explain what students should know about various colleges in order to make intelligent choices and adequate preparation. This general meeting is followed by group meetings where students and their parents meet with representatives of

[2] "Guidance for Secondary Schools," *Iowa Secondary Cooperative Program*, Volume V. Des Moines, Iowa: Jessie M. Parker, State Superintendent of Public Instruction, 1948.

particular colleges to discuss questions in detail. Alumni from eastern schools aid in these meetings. Miss Miller reported beginnings of efforts in Colorado to bring about better curriculum articulation between high schools and the University of Colorado in the fields of mathematics and English. The purposes and work of the Colorado Council on High School Relations was briefly explained.

PROBLEMS IN DEVELOPING AND INITIATING PROGRAMS IN SCHOOL AND COLLEGE RELATIONS

The conference members were asked to identify some of the special problems and issues in the field of school and college relations. It was hoped by this means that problems might be suggested which would be suited for study by the committee.

1. One of the suggested problem areas relates to the need for professional contacts between school and college personnel.

The inference here is twofold: first, that arrangements should be set up for representatives of schools and colleges to meet more frequently to consider their mutual problems; and second, that the contacts that are made should be of a more professional nature. It is well known that some colleges and universities send representatives to high schools for the avowed purpose of recruiting students. For example, testing services are provided by some colleges in order to identify the most outstanding students in the hope that such students can be induced to attend the college concerned. The danger in such methods is that the interests of the students may be sacrificed if they are persuaded to attend institutions or to pursue curricula not suited to their aptitudes and needs. Also, the time of the school officials and students may be wasted unduly through uncoordinated and duplicating visits by representatives from several different institutions.

In considering the problem of professional contacts, several questions arise. For example, what should be the nature of the contacts between school and college representatives? Who should have the responsibility for making arrangements for such contacts? Where does the impulse come from? Who initiates such contacts in states and regions where professional relationships have been established and where effective programs of guidance and curriculum improvement are under way? Should the colleges take the lead in seeking to establish these working relationships? What should be the methods of approach?

The observation is made that relations between schools and colleges appear to be most professional where groups of colleges and schools have been working together on problems and projects of mutual concern, and where an effort is made to spread the responsibility. The example cited previously in this report of the cooperative program of school visitation inaugurated by the Ohio College Association represents one method of approach. Another example is the planned visitation program of a single institution, such as that carried on by Missouri University. Examples of comprehensive programs involving groups of schools and colleges engaged in improving guidance and curriculum services are those in operation in Michigan and Illinois. Certainly in both the Michigan and Illinois programs responsibility is widely spread among interested groups.

2. Closely allied to the problem of developing professional contacts is the need for evaluating existing types of contacts. Many colleges and universities claim that they do not engage in recruitment activities *per se*. This

raises a pertinent question: What is college recruitment?

The assertion was made that career days as now conducted in many instances may not be especially educative. Merely bringing high school students to the campus, taking college representatives to high schools, having a series of talks and teas, showing football pictures, etc., may be of limited value. What are the positive as well as the negative elements of college recruitment programs? How can college nights be improved?

Much favorable testimony was given by the conference members concerning principal-freshmen conferences. Some of the promising features of such conferences have been pointed out in other sections of this report. But again there is a need for evaluating such conferences, looking to the effects upon programs of guidance and instruction in both the schools and colleges. The fact that students are given a chance to air their adjustment problems and needs with their former principals and counselors and that both principals and students are permitted to discuss some of these problems and needs with college teachers and counselors may have great therapeutic value. But if the leads brought out by such procedures do not change in the right direction the attitudes, viewpoints, and practices of secondary-school and college teachers and counselors, the values are indeed limited. This brings us back to the main question: How are changes in attitudes and practices brought about in school and college relations?

3. A persistent problem in school and college relations is the restrictive nature of college entrance requirements. College entrance requirements still tend to be used as a subterfuge by school officials in justifying the continuation of outmoded curricula and guidance practices. There may be need for an up-to-date study of the status and trends in requirements and of actual practices in admitting students to college. The extent to which colleges are applying new patterns of college entrance requirements similar to those proposed in the Illinois study needs to be known and the resulting information widely disseminated.

The suggestion was made that college officials should adopt an experimental frame of mind in admitting students to college. Experimentation in projects similar to the Michigan Agreement plan is needed. There is also a need to examine the bases of certain admission requirements and practices.

The question was raised as to how intellectual interests may be determined—one of the desirable requisites for success in many types of college curricula. The function of tests in determining aptitudes, abilities, and interests for college careers need to be more clearly formulated and understood.

4. While the problem of preparing students adequately for college may never be solved with existing school administration units and prevalent low-cost mass education, the problem is one which continuously plagues college and school officials alike. There is a prevailing optimism that students can be better prepared both for college and for living in our type of society.

The high schools ask the colleges to furnish statements of specific knowledges and skills required for success in particular college courses and curricula. In the absence of clear statements of such needs, the high school teachers are working somewhat in the dark. Even when such statements will have been developed, there is no assurance that the high schools will be equipped to develop in the students needed competencies in specialized fields. Witness the statement of the mathematical

needs for students in the College of Engineering at the University of Illinois. As previously observed, to meet these needs a high school would have to offer four years of mathematics. At present, only a small fraction of schools can do this. The preparation and distribution of statements of competencies needed for success in the various curricula in college would, nonetheless, greatly aid the high schools in planning entrance experiences for college-bound students.

The best results in articulating high school and college instructional programs may come through joint planning. The principle of joint planning was reiterated throughout the conference.

The plea was made to look at college preparation in broader terms than so-called subject matter preparation. High school students need to learn how to take lecture notes, and especially how to study different types of materials found in college courses. One suggestion was made that college teachers might visit the high school and teach demonstration classes by college methods. Students could visit college classes and observe methods in use. By these and other means, high school students might gain firsthand experiences in meeting difficult instructional problems before they enroll in college. Not only should the means by which students might gain such experiences in high school be investigated, but also the blocks that prevent the getting of such experiences.

Reference was made to the teaching to high school seniors of units on going to college, as carried out in the Webster High School in Tulsa, Oklahoma. Through such units students are aided in making personal and social adjustments to college life.

5. Another problem area referred to pertains to the need for colleges to assist the students in making satisfactory adjustments after they arrive on the campus.

Wider use of placement tests by colleges as a means of helping the students to make satisfactory progress in course work was advocated. In Ohio State University, as in many other institutions, placement tests are given with specific courses in view. Questions were raised as to what examinations should be given and in which subjects. The idea was expressed by one conference member that too much emphasis can be placed on examinations. It was asserted that better selection of examinations and better understanding of their purposes and uses will result when high school officials are requested to participate in the college testing programs.

The means by which the results of examinations for entrance and placement purposes are utilized by high schools and colleges need to be considered. In selecting tests, in making tests, and in setting up means for implementing results, high school people should be involved. Information as to what the testing program is and what its purposes are should be widely spread.

6. An over-riding problem area pertains to the promotion of relationships that lead to the improvement of instruction and guidance both in the schools and in the colleges. There is a recognized need for better articulation of instruction.

The difficulties in achieving better curriculum articulation of a fundamental character were repeatedly mentioned during the conference. One trouble is that education at the secondary school level and especially at the college level is compartmentalized. The philosophy and objectives of the two types of institutions are at variance. Certainly the problems of articulation are complicated also in the

fact that the population of the secondary school is now largely unselected, while that of the colleges is selected. Ways and means must be found of stimulating further study and improvement of instruction at the local level.

7. The rôle of the teacher is central to the improvement of school and college instruction. This trite but vital generalization has implications for preservice and in-service programs of teacher education. One participant suggested the need for a study of the scope and quality of programs of teacher education for secondary school and college teachers. The need for selective recruitment of prospective teachers was stressed. In one state it was observed that students from the lower ability brackets are the ones planning to attend state teachers colleges.

The need for improving the effectiveness of college teaching is implied in the suggestion that a study should be made of the quality of college training.

AREAS OF ACTIVITY RECOMMENDED TO THE COMMITTEE

On the basis of discussions during the conference, the following recommendations were made concerning activities in which the Committee might engage, and organizations through which projects might be initiated.

1. *Regional Workshops.*—The workshop idea was suggested as a means of better equipping school and college personnel to meet the problems of selecting, guiding, and preparing students for college and of facilitating their satisfactory placement and adjustment after entering college. Workshops similar to those conducted in the liberal arts education study under the sponsorship of the North Central Association were proposed.

2. *Consultative Services.*—The use of a coördinator and of consultants to visit workshop centers and other school-and-college relations projects was suggested as a possible means of accelerating desirable changes in school and college relations.

3. *Regional Conferences.*—The holding of regional conferences on school and college relations, sponsored by the North Central Association, was suggested as another type of project which the Committee might consider. By such means concrete ideas could be exchanged and desirable practices more widely adopted. The North Central Association might furnish speakers and consultants for such conferences.

4. *State Planning Committees.* The use of a small planning committee within each state was suggested as a means of getting desirable projects initiated. Methods of getting such committees established and operating would need to be explored.

5. *North Central State Committees.* State committees of the North Central Association might serve as agencies for receiving and passing-on suggestions for projects and activities. In most states such committees exercise a strategic leadership in the accreditation process. Their membership includes representatives of high schools and colleges and universities, although the committees are not necessarily representative of all schools and colleges. In many states in the North Central territory, a majority of the small and medium-sized high schools are not members of the Association. Consequently, other means would have to be used to involve non-member schools in state and area projects.

SUMMARY

The Committee on School and College Relations received many excellent, concrete ideas from members of the conference concerning on-going college

relations. It is felt that the members also benefited from the free exchange of ideas and experiences. The value of conferences such as this was firmly demonstrated. Such conferences constitute one means of spreading ideas and of stimulating individuals and groups to explore promising practices and to improve existing projects and activities. The multiplication of such conferences between school and college representatives for the purpose of considering how to improve the services of schools and colleges, especially for students who can and should go to college, is strongly recommended.

The functions of the Committee were thought to be advisory and stimulative. The Committee might well serve as a means of assembling descriptions of promising projects, and of stimulating and promoting desirable changes by publicizing them and possibly by providing consultative services. The conference did not encourage the Committee to engage directly in setting up and supervising projects in the field of school-and-college relations. Neither did the conference members feel that the Committee on High School-College Relations should directly attempt any evaluation of existing projects. The members did recommend that evaluation be undertaken by those most closely connected with various projects and activities and that the Committee might serve as a clearing agency for disseminating the results of such evaluations.

On the one hand, the number of problems suggested for further study emphasizes the need for continued efforts by members and agencies of the North Central Association to establish more effective working relationships between colleges and secondary schools to the end that all youth may develop into useful citizens; on the other, the evidence that progress is being made in establishing better relationships is encouraging and leads to justifiable optimism in predicting still further improvement in the years ahead.

QUALITY EVALUATION OF D AND F GRADES—A SURVEY OF CURRENT PRACTICE[1]

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AMONG the several issues stemming from general consideration of quality requirements and grading practices in colleges is that of defining the minimum quality performance that should be established for graduation. As many as four quite different considerations deserve attention. There is obviously the very human matter in case a student has made a poor record during some of his college career because of immaturity, lack of incentive, extra-school difficulties, or other scholastic misfortune. Second, is the premonition of unwanted pressures on grading practices in order to convenience the particular student or to accommodate a rigorous minimum quality requirement. Thirdly, the possibility of resort to administrative dispensation as the only way out of quality predicaments merits careful attention. Finally, comes the transfer student. Is he to be favored over the college's own students through dropping of D and F grades as he transfers? It is easier to raise questions than answer them; yet, answers are implicit in existing college practices. In the hope that the composite of current college practices might contribute insight, a questionnaire study was undertaken in January, 1951. Findings from the study together with a statement of reformulated policy at Hope College are presented herein.

[1] The Hope College questionnaire survey of D and F grades arose from recurring discussions in the school's Educational Policies Committee concerning the significance of low grades. A subcommittee of three was appointed to investigate the problem and survey current practices in liberal arts colleges. This subcommittee enjoyed the very helpful cooperation of the Dean of the Faculty and the Chairman of the Educational Policies Committee; the Registrar was a member of the subcommittee.

The questionnaire itself was limited to the quality evaluation accorded D and F grades in determining if a student fulfilled the minimum quality requirement for graduation. It is reproduced at the close of this article. More than two hundred questionnaire forms enclosed with a brief letter requesting cooperation were mailed out to registrars in liberal arts colleges of the North Central Association of Colleges and Secondary schools. This total comprised, in principle, all four-year colleges as such, excluding teacher colleges and universities. Usable returned forms were received from 147 colleges, located in seventeen states and constituting 70 percent of the number mailed out. In terms of size of enrollment during the Fall of 1950, the colleges are distributed as follows:

Small colleges with enrollment of less than 700	71
Medium-sized colleges with enrollment of 700 through 1,299	49
Large colleges with enrollment of 1,300 and over	27
Total	147

Minimum Quality Requirements for Graduation

A majority of the reporting colleges (77 out of 147) required for graduation a minimum in quality of academic work that may be viewed as an average of total quality points earned divided by total credit hours, with varying definitions for the totals. These are termed Group 1 colleges in the present discussion. Usually, a C average is needed for graduation, implying a quality point total that varies with hours as hours exceed the required

minimum. Nearly all of the remaining colleges (64) were in Group 2, with their quality minimum defined as a fixed total of quality points. The total is equivalent typically to an average of C as measured against the minimum number of required hours. Four colleges used a grade distribution of some kind; *e.g.*, an upper limit on credit hours with D grades (Group 3). The final two colleges relied for quality on their comprehensive examinations (Group 4). The subsequent discussion deals only with the 141 colleges in the first two requirement groups; the few colleges in Groups 3 and 4 are not otherwise distinctive.

Quality-Point Scoring Plans

Since the minimum quality requirements for graduation from colleges in Groups 1 and 2 are defined in part by resort to earned quality points, it is necessary to note the quality-point scoring plans in use. Different plans may imply variant quality requirements. Concern here is with plans used in measuring quality for meeting the minimum requirement for graduation; not infrequently colleges have a different plan for honors calculations. Plan number and character as understood herein are shown below:

Quality point Scoring Plan	*Quality points allowed per hour for grade of*				
	A	*B*	*C*	*D*	*F*
Plan 1	4	3	2	1	0
Plan 2	3	2	1	0	−1
Plan 3	3	2	1	0	0
Plan 4	Other				

In Table I, it is seen that forty-three colleges use Plan 1, thirty-eight Plan 2, and fifty-one Plan 3. Only nine colleges of the 141 in question fall in the miscellaneous Plan 4 group. There is considerable association, it appears, between large colleges and Plan 1.

Variant Minimum Quality Requirements

The quality-point average used by Group 1 colleges may be variously defined through different treatment of the grade earned in the first attempt at a course later repeated. The average may include both attempts, or the last attempt only ignoring the first, or a combination using both in some cases and the last in others (Subgroups a, b, and c, respectively). The third or "mixed" subgroup proved particularly bothersome. It can arise when the hours figure (the denominator of the quality average) is limited to hours carried successfully so that D grades are included but not F grades. This may hold whether the course is repeated or not. Also possible is the case using scoring Plan 2 and counting all quality points in the numerator but only non-duplicated passed hours in the denominator. Then, F grades affect the numerator but not the denominator.

Frequency counts in Table I show that only one-third of the colleges in Group 1 count both attempts at a repeated course; these tend to use scoring Plans 1 or 3. A majority of the colleges in this group simply ignore the first attempt at a repeated course and show but small preference for either of scoring Plans 1 or 2 over Plan 3. Most severe on the borderline student would be the *a* practice in conjunction with Plans 1 or 2. To offset a grade of F, this arrangement demands an A or two B's; and to offset a grade of D, a B or one-half an A—a real achievement for the borderline student. The *b* practice with its automatic cancellation of the first of two grades for a repeated course places a premium on taking a course over once an F or D grade has been earned.

For quality requirement Group 2 using the fixed quality-point total, treatment of repeat courses usually

TABLE I

NUMBER OF REPORTING NORTH CENTRAL COLLEGES IN QUALITY-REQUIREMENT GROUPS 1 AND 2 BY ENROLLMENT SIZE AND QUALITY-POINT SCORING PLAN AND BY QUALITY REQUIREMENT FOR GRADUATION, 1951

(For classification definitions, see explanatory statement above)

Enrollment Size and Point Scoring Plan	Colleges Defining the Quality Requirement for Graduation as							
	Total both groups	1.—Quality-point average With repeat courses counted				2.—Fixed quality-point total With repeat courses counted		
		Total	a.—Both times	b.—Last only	c.—Mixed	Total	b.—Last only	c.—Mixed
All Sizes—total	*141*	*77*	*26*	*44*	*7*	*64*	*54*	*10*
Plan 1	43	32	11	17	4	11	11	—
Plan 2	38	22	4	15	3	16	6	10
Plan 3	51	18	8	10	—	33	33	—
Plan 4	9	5	3	2	—	4	4	—
Small-total	*68*	*29*	*10*	*19*	*0*	*39*	*31*	*8*
Plan 1	13	9	4	5	—	4	4	—
Plan 2	20	8	2	6	—	12	4	8
Plan 3	28	9	2	7	—	19	19	—
Plan 4	7	3	2	1	—	4	4	—
Medium-total	*48*	*29*	*11*	*14*	*4*	*19*	*17*	*2*
Plan 1	17	12	5	6	1	5	5	—
Plan 2	12	8	1	4	3	4	2	2
Plan 3	17	7	4	3	—	10	10	—
Plan 4	2	2	1	1	—	—	—	—
Large-total	*25*	*19*	*5*	*11*	*3*	*6*	*6*	*0*
Plan 1	13	11	2	6	3	2	2	—
Plan 2	6	6	1	5	—	—	—	—
Plan 3	6	2	2	—	—	4	4	—
Plan 4	—	—	—	—	—	—	—	—

Source: Hope College questionnaire survey of quality evaluation of D and F grades. January, 1951.

takes the form of counting the last attempt only. However, the treatment may be mixed under point-scoring Plan 2. Here, the negatives for F grades may be cumulated with other earned quality points so that the F grade is counted but not a D grade. Interestingly, as may be seen in the table, colleges using scoring Plan 3 are found chiefly in quality-requirement Group 2.

The fixed quality-point total of Group 2 colleges must, according to rulings in some schools, be attained in those courses only which satisfy as a group the college's course requirements for graduation. Alternatively, the quality points may be cumulated using

TABLE II

NUMBER OF REPORTING NORTH CENTRAL COLLEGES IN QUALITY-REQUIREMENT GROUPS 1 AND 2 BY ENROLLMENT SIZE AND TRANSFER-GRADE PRACTICE AND BY QUALITY REQUIREMENT FOR GRADUATION, 1951

(For classification definitions, see explanatory statement above)

Enrollment Size and Transfer Grade Practice	Colleges Defining the Quality Requirement for Graduation as							
	Total both groups	1.—Quality-point average With repeat courses counted				2.—Fixed quality-point total With repeat courses counted		
		Total	a.—Both times	b.—Last only	c.—Mixed	Total	b.—Last only	c.—Mixed
All Sizes—total	*141*	*77*	*26*	*44*	*7*	*64*	*54*	*10*
Practice A	37	30	18	12	0	7	2	5
Practice B	66	22	2	18	2	44	43	1
Practice C	22	14	4	8	2	8	4	4
Practice D	16	11	2	6	3	5	5	0
Small—total	*68*	*29*	*10*	*19*	*0*	*39*	*31*	*8*
Practice A	16	11	8	3	0	5	2	3
Practice B	36	10	0	10	0	26	25	1
Practice C	12	6	2	4	0	6	2	4
Practice D	4	2	0	2	0	2	2	0
Medium—total	*48*	*29*	*11*	*14*	*4*	*19*	*17*	*2*
Practice A	13	11	6	5	0	2	0	2
Practice B	21	7	2	4	1	14	14	0
Practice C	7	6	2	3	1	1	1	0
Practice D	7	5	1	2	2	2	2	0
Large—total	*25*	*19*	*5*	*11*	*3*	*6*	*6*	*0*
Practice A	8	8	4	4	0	0	0	0
Practice B	9	5	0	4	1	4	4	0
Practice C	3	2	0	1	1	1	1	0
Practice D	5	4	1	2	1	1	1	0

Source: Hope College questionnaire survey of quality evaluation of D and F grades. January, 1951.

grades in all courses taken by the student. The latter in extreme application under point-scoring Plan 1 would allow a student to be graduated after completion of eight years with straight D grades. The writer finds it difficult to do other than compromise on this issue, which becomes real if a D grade on an extra course (bringing the hours total beyond the minimum) is offered to build up the quality points to the required level. For colleges using scoring Plans 2 or 3, somewhat similar questions arise in connection with D grades in courses mandatory for graduation. Unfortunately, the questionnaire survey failed to probe far enough along this line. Annotations of respondents,

however, suggest that eleven of the sixty-four colleges in Group 2 exclude quality points earned in extra hours. As many as thirty-one seem to follow the opposite practice, sometimes with other limitations such as not permitting more than an extra half-year in school. The remaining twenty-two colleges are unknowns.

D and F Grades of Transfer Students

What treatment is accorded D and F grades received in another accredited college? It is understood that except for the low grade the course or courses in question are fully acceptable for transfer. When attention is focused on the evaluation of these courses, colleges are distributed as follows:

Practice A: Thirty-seven colleges count transfer D and F grades fully and as if received in the college itself.

Practice B: Sixty-six colleges count only such D grade courses as are accepted for credit. College regulations may vary considerably in regard to accepting D grade courses for transfer credit.

Practice C: Twenty-two colleges accept no courses for transfer when D and F grades were earned.

Practice D: Sixteen colleges ignore all transferred credits in testing for fulfillment of the quality requirement for graduation.

In brief, as may be seen in Table II, colleges using Practice A are largely in quality-requirement Group 1, and somewhat concentrated in Subgroup a. Practice B predominates markedly in quality-requirement Group 2. Practices C and D are of lesser importance generally, though somewhat more common in Group 1 than in Group 2. In further cross-classification by quality-point scoring plans, not reproduced herein, there appears a rather marked concentration of colleges in the cell for quality-requirement Group 2—transfer-grade Practice B—point-scoring Plan 3. A lesser concentration appears in the cells for quality-requirement Group 1—transfer Practice A—point-scoring Plans 1 and 2.

Waiver of the Quality Requirement

Passing reference should be made to waiver for particular students of the minimum requirement for graduation during the academic year, 1949–50. A majority of the colleges responded that waiver was impossible or had not been done within the memory of the present registrar. A number of reports stated that waiver was most extraordinary; perhaps granted for unusual veteran cases, with no waivers during 1949–50. In some returns, no answer was given, possibly by design. There were eight colleges reporting waiver of the minimum quality requirement during 1949–50. In five colleges waiver was granted in but one instance; one college reported two; another, three; and one, five instances. Every one of these eight colleges was in quality-requirement Group 1, accounting for about one out of ten of the colleges in each of the a, b, and c subgroups.

Patterns of Practice

The study of minimum quality requirements in liberal arts colleges of the North Central Association area was undertaken in the hope of discovering something conclusive. But, clearly, there is little unanimity to be found; nor do practices focus neatly about two or three norms that stand in contrast one with another. In dealing with data displaying such diffusion, there is special need for recognizing interaction factors. Thus, from Table I, it might appear that scoring Plan 1 is somewhat logically associated with large colleges; smaller colleges seem to favor Plans 2 or 3. State-by-state tabulations, however, reveal that Ohio (and to a lesser extent Illinois and Michigan) has more large colleges than other states and Ohio colleges stress

quality-point scoring Plan 1, an illustration of intra-state conformity commonly present in limited degree. This display of limited conformity within a state may extend beyond state boundaries to include a group of adjoining states. In the Iowa-Kansas-Missouri area, for example, there seems to be a tendency toward quality-requirement Group 2, point-scoring Plan 3, and transfer-grade Practice B. Colleges here are usually small or medium in size.

Despite difficulties with generalization, it is probably worthwhile to search for such patterns of practice as may be found, accepting the evidence of the 141 reporting colleges. Two types, perhaps, are dominant. The first applies to the eastern and southern colleges of the North Central Association area, often larger in size than elsewhere. Here the tendency is toward requirement Group 1-a or 1-b, scoring Plan 1 probably, and transfer-grade Practice A or B. A second type pertains to the western and northern colleges of the area, often the smaller-sized colleges. For these, the tendency is toward quality-requirement Group 2-b with no limits on the cumulation of quality points, scoring Plan 3, transfer-grade Practice B, and possibly no repetition of a course after a D grade has been earned. The reader may suspect in such findings the accident of history as much as the compulsion of logic.

It is essential, indeed, to recognize the marked degree of diffusion that exists. There seems to be precedent for almost any set of regulations that could be formulated from a meaningful combination of the cross-classifications used in this study. Is such a range of practices necessary to the functioning of different colleges? Perhaps any reasonable set of regulations will work out satisfactorily if there is a will to make them do so. But some patterns may well be preferred over others, and the better should be sought.

Criteria for Preferred Practices

What underlying considerations, then, are relevant to the question of the minimum quality requirement for graduation from a liberal arts college? A number of suggestions can be formulated. These are stated below in quite positive form, no doubt inviting disagreement and differences along the way.

A. The increasing numbers of young people wishing to attend college together with the widening range of subject matter properly included in the liberal arts college curriculum have resulted in a variation in student types and student interests that outmodes the regulations of the older kind of liberal arts college. There is need for a built-in flexibility in college regulations that will permit colleges to fulfill suitably the purposes for which they now exist.

B. The A.B. degree may properly be conferred after fulfillment of requirements that do not demand a minimum average for all work attempted. If necessary in order to qualify for graduation the student who has had some scholastic misfortune leading to low grades along the way—the result of immaturity, inadequate incentive, mistaken field of study, or other difficulties—should automatically be allowed to put in extra time. The additional credit hours should replace others bearing low grades.

C. There should be no pressures on teachers to raise grading standards in order to accommodate a high, inflexible-quality standard. This would apply to raising of grades generally as well as to manipulation of grades in the case of particular border-line students.

D. The student transferring from one college to another should have no advantage as a result of the transfer, as such. College requirements will differ but the student shopping about for improvement of his quality position by the act of transfer should find no opportunity for the practice.

E. Establishment of a rigid minimum quality standard which comes to be violated by special administrative action granting waiver in particular cases is most undesirable. With a suitable standard, no case of quality deficiency need appear so meritorious as to demand this expedient.

F. The student should not find it advantageous from a quality-point angle to repeat a course in which a D or F grade was earned when election of a different course would otherwise better serve the student.

G. The minimum quality requirement for graduation, however formulated, should not prejudice completeness of the student's record as it appears in the college's files or on his transcript. Nor should it necessarily determine the quality requirements for honors.

It is disillusioning, perhaps, that the foregoing considerations lead away from the use of an average. Neither the strict average of total quality points against total attempted hours nor the averages implying special treatment of repeated courses or low transfer grades can satisfy the conditions. Some type of fixed quality-point total seems indicated.

Action Taken at Hope College

The minimum quality requirement for graduation was changed at Hope College soon after preliminary findings from the D and F grade survey were available. Prior to the change, Hope College (a medium-sized institution) was in quality-requirement Group 1-b with transfer Practice B and quality-point scoring Plan 1. As a result of the change, the college is now in quality-requirement Group 2-b with repetition of a D grade course ruled out, transfer Practice A, and quality-point scoring Plan 1. With quality-point scoring Plan 1, there seemed to be need for the stipulation requiring a C average in some 126 passed credit-hours of work (not necessarily including all required courses). The current position of Hope College is stated in the following regulations adopted during the spring of 1951.

1. A complete and exact record shall be kept by the Registrar of all college courses attempted and grades received, including account of all courses and grades which were received while in attendance at other colleges or universities.
2. The Hope College transcript shall provide a record of all courses and grades while in attendance at Hope College and elsewhere.
3. A student receiving a grade of F:
   a. in a course required for graduation, should repeat the course the next time it is offered.
   b. in a course required for a major, should repeat the course the next time it is offered, provided he continues his major in the same field or in some other field requiring the course for a major.
   c. in all other cases, need not repeat the course but may do so at the explicit and written approval of his counselor and endorsement by the dean of the college.

   In the foregoing cases, the credit hours and quality points of the course *as repeated* shall have full recognition and standing.
4. A student receiving a grade of D shall not in general repeat this course. However, with the approval of the head of the Department under which the course is offered and endorsement by the dean of the college, the course may be "audited."
5. A student, to be eligible for graduation, must pass all college required courses and present 126 hours of work in which he has achieved a 2.0 average.
6. In determining quality attainment for *honors* purposes, measurement shall be in terms of an average quality attainment based upon total quality points earned in all courses divided by total attempted hours in all attempts, including courses with grade of F irrespective of whether repeated or not but not including courses taken on an "audit" basis.
7. For students transferring from accredited colleges, all attempted hours and quality points after conversion to the quality point system at Hope College shall have full and identical standing with work done in residence at Hope College. This treatment shall be accorded in connection with calculations for both minimum quality requirements and honors requirements.

APPENDIX I

I—Questionnaire Form Used in the Hope College Survey

Hope College January 1951

Questionnaire: Quality Evaluation of D and F Grades

Part I.—Attention is invited first to fulfillment of the minimum quality requirement for graduation from your institution with a bachelor's degree. In answering questions, let it be presumed that fulfillment of the quality requirement is the only matter at issue.

1. Is the quality attainment minimum required for graduation based on the number of quality points allowed in all semester (quarter) hours attempted? If the requirement is in terms of an average, this would mean division of total quality points in all attempted courses by total attempted hours in all courses. If the requirement is in terms of a total, the quality point total would increase proportionally with total attempted hours as the latter exceeded the minimum number needed for graduation. Yes _____; No _____. (Check proper answer here and throughout.)

2. If the answer to the preceding question is "No," please explain the minimum quality attainment required for graduation. Explanation:

3. Can a student, who otherwise meets graduation requirements but fails to attain the quality minimum, take additional course work after the usual four-year period and thereby satisfy the requirement? Yes _____; No _____. If the answer is "Yes," please explain what is required of the student. Explanation:

4. Is it possible to waive the minimum quality requirement for graduation for a student not qualifying under the requirement? Yes _____; No _____. If such action is possible, in what college authority does this power immediately reside? _____. If the authority is some committee or board, please state the college position held by the chairman of the group. _____ Such waiver was granted to _____ persons among the _____ persons granted a bachelor's degree during the academic year 1949–1950.

5. Please indicate below the plan used by your institution in allowing quality points for different grades:

Check plan in use	*Plan Number*	*Quality points allowed per hour for grade of*				
		A	*G*	*C*	*D*	*F*
_____	1	4	3	2	1	0
_____	2	3	2	1	0	−1
_____	3	3	2	1	0	0
		Specify grade and quality points per hour				
_____	Other	Grade _____	_____	_____	_____	_____ _____ _____
		Points _____	_____	_____	_____	_____ _____ _____

6. Please answer the following case questions from the standpoint of quality attainment only, adding relevant comment on the margin or on an attached sheet if needed. Note that the "hours" figure here is for quality attainment hours, not hours successfully completed.

A. Student X takes a 4 semester-hour (quarter-hour) course and is graded F. For this he has _____ hours and _____ quality points.

B. Student X repeats the course he failed and is graded D. For the two combined, he has _____ hours and _____ quality points.

C. Student Y with a grade D in a 3-hour course is permitted to repeat this course. He receives a grade of C. For the two combined, student Y has _____ hours and _____ quality points.

D. Student Z has completed 3 semester (quarter) hours more than the minimum number of hours of passing grade required for graduation (designate this minimum as M), receiving grades of C in all except one 3 hour course in which a grade of D is recorded. This student has M plus _____ hours and _____ M plus _____ quality points. Has he fulfilled the quality-point requirement? Yes _____; No _____. (Note that under quality-point plan 1, and with a C average required for graduation, the entries here become 3, 2, 3, no.)

Part II.—The second set of questions relates to transfer students from accredited colleges. It is presumed that all conditions imposed on transfer students, other than those of quality of performance, are fulfilled.

1. Are hours of course work and related quality points for grades earned elsewhere included in their entirety and without alteration when evaluating the transfer student's quality performance for graduation? Yes _____; No _____.

2. If the answer to the preceding question is "No," please explain the quality evaluation accorded grades received elsewhere, as follows:

A. Are grades of F always excluded? Yes _____; No _____.

B. Are grades of D always excluded? Yes _____; No _____.

C. If treatment of F and D grades is not uniform, please explain what is done. Explanation:

If discretion may be exercised, please indicate the authority having discretion and the scope of the discretion. Explanation:

3. Please answer the following case questions that concern courses taken elsewhere by the transfer student, again noting that the "hours" figure is for quality-attainment hours, not hours successfully completed. Add comment on the margin or on an attached sheet if needed.

A. Student X has a grade of F in a 4 semester-hour (quarter-hour) course taken elsewhere. For this, he has _____ hours and _____ quality points.

B. Student X repeats the course in question after transferring and is graded C. For the two combined, he has _____ hours and _____ quality points.

C. Student Y has a grade of D in a 3-hour course acceptable for transfer. For this, the student has _____ hours and _____ quality points.

D. Student Y repeats the course in question after transferring and is graded C. For the two combined, he has _____ hours and _____ quality points.

Part III.—Characteristics of reporting colleges are needed in presenting findings. Please supply the following for your institution:

1. State in which located: _____.

2. Enrollment in the regular liberal arts four-year program as of the first semester (quarter), 1950–1951: _____.

3. Name of reporting college: _____.

N.B.—Is a resume of findings desired? Yes _____; No _____. If "Yes," please provide name and address below (type or print).

APPENDIX II

Summary Tabulations

Chief findings from the Hope College survey of quality evaluation of D and F grades are shown in two summary tabulations. Further tabular detail was mailed to cooperating colleges in mimeographed form. A limited number of copies of the more detailed report are available for distribution to persons requesting them.

The following definitions are given in explanation of classifications and constitute, in effect, a headnote for the tables.

1. Enrollment size. Three size classes are defined.

Small college—enrollment of less than 700

Medium sized college—enrollment from 700 through 1,299

Large college—enrollment of 1,300 or more

2. Quality-point Scoring Plan. The following designations are used in classifying colleges according to quality-point plans.

	Quality points per hour allowed for grade of				
	A	*B*	*C*	*D*	*F*
Plan 1	4	3	2	1	0
Plan 2	3	2	1	0	−1
Plan 3	3	2	1	0	0
Plan 4	---- All Others ----				

3. Minimum Quality Requirement for Graduation.

Groupings are in terms of two major categories:

Group 1.—Quality-point average.—Colleges requiring for graduation an average grade at least equal to some stated minimum number of quality points per credit hours. The average is calculated to include in it any excess of credit hours over the minimum number of hours required for graduation together with related quality points.

Group 2.—Fixed Quality-point total.—Colleges requiring for graduation the earning of at least some fixed number of quality points so as to yield the minimum average or more when expressed in relation to the credit hour minimum required for graduation.

Within Group 1 and 2, three subgroups are distinguished:

Subgroup a.—Colleges with a quality requirement effectively giving full consideration to all quality points earned in all attempted courses (perhaps including no course offering more than twice). Certain colleges in group 1 only are classified here.

Subgroup b.—Colleges with a quality requirement which ignores the first attempt, provided the course in which a D or F grade had been earned is repeated.

Subgroup c.—Colleges with "mixed" quality-requirement practices, the result usually of considering only passed hours or non-duplicated passed hours. Some of the D and F grades are considered in the quality-requirement calculations but not all such grades.

4. Grades Earned in Other Colleges.

For D and F grades received elsewhere by a transfer student in courses otherwise acceptable for transfer, the various practices as they relate to fulfillment of the minimum quality requirement for graduation are classified as follows:

Practice A.—Colleges counting transfer D and F grades fully and as if received in the college itself.

Practice B.—Colleges ignoring F grades received elsewhere and counting in their quality calculations only the D grades of courses actually accepted for transfer credit.

Practice C.—Colleges accepting no courses for transfer which bear D and F grades with the quality implications of such grades ignored in quality evaluation for graduation. A college may, of course, refuse to admit a student with a record of low grades elsewhere.

Practice D.—All grades received elsewhere are ignored whether earned in courses accepted for credit or not. The quality requirement for graduation is concerned only with grades earned in the institution itself.

A CHURCH COLLEGE RE-EXAMINES ITS PURPOSE[1]

L. L. Haynes, Jr.

Philander Smith College, Little Rock, Arkansas

The critical internal and external scrutiny to which church colleges have been subjected during recent years has begun to produce wholesome changes. Here and there the spiritual inertia of church colleges is yielding to the spirit of experimental and scientific investigation in an effort to substantiate the purpose for which the church college exists. In a number of instances, the church colleges have been forced to think seriously about the importance of college experience; religious values to be found in instruction; the student as an integral person functioning as a unit in American history and as a world citizen; and the unique importance of religious and moral values which are needed in our contemporary society. Moreover, this adventure of the church college in the examination of moral values is having an even greater effect that is still more promising, and that is the reduction of a multitude of special problems to central and commanding ones.

Investigation reveals that the difficulties which the church college is encountering are primarily dynamic and not static. It has begun to dawn upon the church college that it must answer the prior questions: Why should young men and women go to a church college? Why should there be a church college at all? What was once thought to be causes of our difficulties turned out to be symptoms—that our major objectives are not well defined and that the motivation of the entire academic organism is unsteady. Students have added to the criticism of the church colleges by asking, "Do they really care for religious values?" And again, a prominent church-college president is reported to have asked, "Why should we try to make religious those persons who do not want to be religious?"

There is a growing realization that the professor, the administrator, the Board of Trustees, as well as the student, must all be concerned about religious and moral values if the church college is to fulfill its mission in our contemporary society.

This paper is concerned with the work which was done by an inter-racial group of professors, religious workers, college administrators, college students, the Board of Trustees, and special workers in the area of religion in local Methodist Conferences at the Second Annual Institute on Religion in Higher Education held at Philander Smith College. The results which have been worked out by the Committee on Findings should prove helpful to a number of colleges (state and church) that are facing the problem of religion in higher education. It is with a good deal of hope that the findings of the Committee will lead other colleges and persons to think seriously about the meaning of the church college in, and the contributions which it can make to, our American life.

The following sixteen statements were developed by the above Committee. Such principles are essential for the development and gradual infiltration of persons into our society whose moral values and religious personalities are of the highest possible standard. It is through the development of these principles that the church college can

[1] This report is timely owing to the widely mounting interest in the place of religion in education and to the seriousness with which church-related colleges are re-examining their functions. —Editor.

become an effective organism in our American way of life, and can begin to fulfill its primary purpose.

REPORT OF THE COMMITTEE ON FINDINGS

1. The teacher who desires to inject religious principles into his subject-matter teaching must exemplify the principles of his religion in his own attitude and behavior.
2. The life and teachings of Jesus can be made stronger and more significant for the casual student if the subject-matter is presented on a factual basis free of any elements of doctrine.
3. The inability of European nations to resist inroads of Nazism and Communism because of their lack of a fundamental democratic tradition emphasizes for us the need of keeping American youth continually conscious of its traditions of democracy.
4. Religion must leave itself open to critical examination if it is to make any contribution to higher education.
5. We cannot assume that the adolescent who grows up in a religious tradition and professes membership in a church necessarily has any real religious understanding.
6. Gradual conversion may have the same emotional depth as the often glorified "blitz" conversion, because it may be accompanied by deeper intellectual insights and may be more lasting.
7. Accepting the principle that the human personality, in normal functioning, is an integrated whole, conversion must be sought as a broad, integrated experience having significance in all phases of an individual's life —social, economic, racial, etc., as well as with the reference to the acceptance of dogma.
8. The unique contribution of the counselor in the church college lies in the possibility of constructive values—conflict counseling. This is a responsibility, not merely an opportunity, for the counselor.
9. The counseling process is a growth experience, and as such, must be considered an integral part of any program of higher education. Like pastoral counseling in the church, modern counseling particularly belongs in the church college.
10. Psychologically, positive approaches to behavior standards produce better results with adolescents and young adults than do negative ones.
11. Opportunities for self-discipline and self-control must be afforded students during their college experiences and preparation for independent mature living after they leave college.
12. The church related college should assist its students to gain an understanding of the world in which they live which transcends the limited perspectives of their own environment. This understanding should result in a world-view with a sense of identification with humanity and especially with the world Christian fellowship.
13. The church-related college should emphasize the Christian approach to freedom, and human rights and other aspects of social justice. The conviction that all men are children of God furnishes a strong foundation for the development of a society in which individual freedom and social responsibility are properly combined. In this regard the Christian college should lead the way by the example it sets in its own student-faculty administration relationships with special emphasis on democratic processes in the determination of institutional policies.
14. Every possible avenue of informing potential students should be explored by the church-related colleges, and especially prepared material should be furnished to the ministers and other church leaders that they may carry their proper share of responsibility in the recruiting of students.
15. The church college has a responsibility through both its curricular and extra-curricular programs to remove the social barriers of race, nation, class, and creed which are to be found in the attitudes and practices of many of its students. A religious approach to life requires such efforts and thereby can provide a sound basis for responsible citizenship in a democratic society.
16. The Christian view in the face of present tensions incorporates the abolishment of war as an institution; the abandonment of nationalism for inter-nationalism; the elimination of racial and class distinctions; the substitution of cooperation for profit; and the adoption of an idealistic philosophy in exchange for the current philosophy of materialism.

The members of the committee which prepared the foregoing statement of principles were:

Attorney Herman Will (chairman), Methodist Church, Commission on World Peace
Dr. Daniel D. Feder, University of Denver, Denver, Colorado
Dr. Edwin Edmonds, Langston University, Langston, Oklahoma

Dr. Lem Stokes, Secretary of Religion, Board of Education of the Methodist Church
Rev. J. O. Erwin, Wiley College, Marshall, Texas
Rev. J. I. Dixon, Pastor, McKinley Methodist Church, Dayton, Ohio
Miss Harriet Seibert, Secretary, Women's Society of Christian Service, New York, New York
Mr. Jamerson Jones, President, National Conference of Methodist Youth
Dean L. L. Haynes, Jr., Dean of Students, Philander Smith College, Little Rock, Arkansas

DEALING WITH HIGH SCHOOL FRATERNITIES AND SORORITIES: A PANEL DISCUSSION[1]

Chairman: B. L. SHEPHERD, *Tulsa, Oklahoma*
Recorder: E. H. CRISWELL, *Tulsa, Oklahoma*

DISCUSSION SUMMARY

IT IS EVIDENT that social organizations of certain kinds pose serious problems for secondary school administrators, particularly in the larger institutions. These problems, for the most part involve the democratic nature of the public high school in a democratic society. Whatever tends to thwart the implementation of democratic ideals in such institutions is detrimental and contrary to the primary nature and purposes of the publicly-supported secondary school. This, some types of social organizations seem to do.

What are the characteristics of such detrimental organizations? The chief criterion of judgment would seem to be that of restriction of membership. Does a given club accept all persons who can qualify for membership, or does it pick its membership upon such a basis as to make it exclusive in nature? This would seem to be the crux of the problem. It is admitted that, for practical reasons of room, space, and maneuverability, some clubs cannot take all applicants and yet perform their assigned functions; such, for instance, as departmental clubs and service clubs. Nevertheless, this kind of organization is often restrictive in nature. It is also admitted that many restricted clubs have noble aims and perform excellent service. Still, the heart of the matter is that they are restrictive and undemocratic in nature. They do not admit all students who have the necessary qualifications.

Another criterion of judgment is that of whether the club is beyond the control of the school. Where such clubs have no sponsoring organization such as a parents' association or a service club of some type, it is generally agreed that they are harmful. Some would even go so far as to say that, even though they are organized and administered by worthy social agencies outside the school, they are, nevertheless, restrictive and have no part in the American secondary school. There is some objection to this point of view by those who feel that the school has no right to demand such complete control of a student's life in view of the fact that he has many interests outside the school, spends a great deal of his time away from school, and often resents too close a supervision of his every activity by the school system. It seems clear that further study of these opposing views is necessary.

Other undesirable qualities of many social clubs often mentioned are secret membership, secret ritual, and elaborate insignia. These seem to be accompaniments of the policy of restricting membership. They give aid and comfort to those who desire to be exclusive, but would probably vanish with the disappearance of restricted memberships.

Whatever the difference of opinion as to the precise definition of an undemocratic and undesirable social club, it is generally agreed that such institutions are the outgrowth of a natural and wholesome desire of young people to extend and enhance their personali-

[1] A feature of the program of the Commission on Research and Service, March 29, 1951, at Chicago. Mr. Shepherd is Assistant Superintendent in Charge of Secondary Education, Tulsa, Oklahoma, and Mr. Criswell is Dean of the College of Liberal Arts, University of Tulsa. This abstract was prepared by Mr. Criswell.

ties in social relationships, to make a place for themselves in the social milieu, to achieve a feeling that they "belong." Consequently, no solution can ever be found in merely negative prescriptions. What is needed is a positive program.

It has been suggested that one method of approach is to explain these normal social urges to young people so that they may understand them and thus be in a position to cooperate in finding wholesome outlets for them. Prestige-loving parents, as well, might profit from such instructions, since any large-scale attempt to find desirable substitutes for social clubs will need the support of parents. Some schools have made notable progress by the establishment of youth centers which have engaged the attention of the great majority of the students. Where this has been done successfully, exclusiveness has become a doubtful prerogative and the undesirable social club has withered on the vine. It seems likely that this points out, in general, the direction in which success lies.

The North Central Association might very well study the problem and attempt to give some assistance to the schools. After such study, it may be possible to formulate at least a set of fundamental principles for the guidance of the secondary schools.

EDUCATION OF TEACHERS IN A PERIOD OF NATIONAL EMERGENCY: A PANEL DISCUSSION[1]

Chairman: JOHN E. JACOBS, *Emporia, Kansas*

DISCUSSION SUMMARY

THE FOLLOWING three major areas of the discussion were summarized for publication by the three consultants whose names appear after the respective paragraph headings.

College Enrollments (*Edward F. Potthoff*). According to the United States Office of Education the total enrollment (men plus women, graduate plus undergraduate, veteran plus non-veteran, and full-time plus part-time) in all institutions of higher learning next fall will be reduced by approximately 11 percent below the fall, 1950, level if the Hershey plan for deferment of military service on the part of college students is put into effect. The reduction will be confined very largely to undergraduate men since the total decline in the enrollment of women is estimated at about 1 percent and since a very large percentage of the graduate men will be exempt from the draft because they are married students, veterans, physically unfit, overage, or are following fields of specialization which automatically result in exemption. It follows that the effects of the reduced enrollment will vary greatly from one type of institution to another. Those which enroll only women, for example, will be affected hardly at all, while those which have only undergraduate men will be affected most.

The effect of the decline of the enrollment upon institutions engaged in the preparation of teachers will, in general, be an intermediate one. In the first place, an unusually large proportion of the enrollees in such institutions normally are women. Thus whereas in the fall of 1950 less than one-third of the enrollees in all institutions belonged to the gentle sex, the proportion in the teachers colleges was more than 50 percent. In the second place, aggregate enrollments of men and women in the teachers colleges have shown much more favorable trends than for those in all institutions combined. Thus in the fall of 1948 the increases in enrollments for the preceding year for these two cases respectively were 4.9 and 3.0 percent; the next year they were 12.2 and 2.0 percent; and in the fall of 1950 there were losses in both instances amounting to 0.13 and 6.5 percent, respectively.

Obviously there are many uncertainties in the enrollment situation for next year. It should be kept in mind, however, that even in the absence of any emergency there would have been a reduction in the total enrollments in all higher institutions of about 7 percent over the fall of 1950. This expected decline is mostly the result of large losses in veteran enrollees, although the numbers of women and of non-veteran men were also due for reductions because of the decreased numbers of high school graduates in recent years. In view of all of the facts, institutions for the preparation of teachers should indeed be in a fortunate situation next fall if World War III does not develop and if the Hershey plan is actually applied on the basis recently proposed.

Liberal Arts College (*Frank W. Clippinger*). The present emergency is

[1] Held under the auspices of the Commission on Research and Service at Chicago, March 29, 1951. Mr. Jacobs is Administrative Assistant at Kansas State Teachers College, Emporia; Mr. Potthoff, Director of the Bureau of Institutional Research, University of Illinois, Urbana; Mr. Clippinger, Dean of Men, Drury College, Springfield, Missouri; and Mr. Michael, Superintendent of the Evanston Township High School, Evanston, Illinois.

probably going to have a serious effect upon enrollment in the liberal arts colleges, particularly the private liberal arts colleges, and this in turn will produce financial difficulties in institutions so largely dependent on tuition income. Severe retrenchment will have a serious effect on the progress the liberal arts colleges have lately been making in their programs of teacher education.

One of the immediate effects which I expect will be the reduction of the number of men going into public school teaching. The emergency will also put a strain on the elementary teacher training programs. These have traditionally been the weakest part of the service in teacher preparation provided by the liberal arts colleges. They have only recently begun to develop programs for the training of elementary school teachers, and in many instances have not established programs. Retrenchment may further impair this part of the teacher training program—at a time when the demand for elementary school teachers is still increasing.

There will also be a tendency to lower standards of work throughout the whole teacher-preparation program. The danger lies especially at the level of selection or recruitment. We can expect more people who are not fully prepared for teaching to be called into service. More students may interrupt their undergraduate education to teach for a year or two and we shall therefore be less selective. We shall need also to consider the possibilities of starting the program of teacher education earlier than has been customary in the liberal arts colleges. Such action will have its effect upon selection.

Another effect of the emergency will be to place more importance than ever upon summer school programs, not only as a means of acceleration but also of providing refresher courses for people who are coming back into teaching. We may soon find ourselves in a position somewhat similar to that of a few years ago of helping people gain emergency certificates.

In times of crisis the colleges have even to a greater degree both the responsibility and the opportunity to do a good job. For that we need most a faculty-wide acceptance of our traditional role in teacher preparation and a deliberate effort clear across the campus to do the very best we can.

In-Service Development of Teachers (*L. S. Michael*). The Defense Program has certain clearly defined implications for in-service education in our secondary schools. These may be briefly stated as follows:

1. *It is recommended that secondary schools intensify their efforts to effect needed improvements in their educational programs.*

   Each member of the school's staff should recognize that the improvement of education for *all* youth is basic to national security. Those who would argue for a return to "fundamentals" in the curriculum mistake the meaning and intent of recent trends in curriculum development. Thus Life-Adjustment Education, the imperative needs approach, and common learnings are typical of the kinds of curriculum improvement that recognize the great obligation of the secondary school to youth and to our society. In an extended crisis, "youth education in America needs steadier but more eager hands upon the wheel, not a heavier foot upon the brake."

2. *It is recommended that cooperative programs which are concerned with the national security be developed between state departments of education and all lay and professional groups.*

   The recent efforts of the Illinois Secondary School Curriculum Program to develop a national security program for the schools of that state emphasize the wisdom of coordination and cooperation at the state level and the importance of the grass-roots approach at the local level. The mistaken idea that "teaching school isn't important" in the present crisis can be eradicated from the public and professional mind if such cooperative programs are initiated. In-service education of teachers must be directional in character; practical

steps must be taken to impress the local community and the nation with the importance of the teacher's task in the current crisis.

3. *It is recommended that secondary schools oppose any attempts to establish a nationwide testing program as a device for screening high-school seniors for college or military service.*

Significant progress has been made in recent years in the development of improved educational programs in many of our secondary schools. There is evidence that further improvement at an accelerated rate may be expected. The recent announcement that the Selective Service is considering a testing program that would include high school seniors should be viewed with alarm.

Such a testing program might well mean the end for the present of any high school curriculum improvement. The best curriculum in most high schools for boys could become whatever it takes to pass the test. Even if the tests are as broad in scope as the current College Entrance Board tests, they will be a limiting factor operating on a nation-wide scale on the secondary school curriculum. No test can be designed which will recognize the many kinds of abilities, interests, and scholarship prevailing in the pupil population of the typical comprehensive high school. If physical science and mathematics are heavily weighted, as one may assume they would be, what will be the result on expanding programs in general education studies, business education, art, music, and any of the vocational subjects?

The danger of restrictive effects on the high-school curriculum should be recognized and courses and methods of teaching that contribute most to test-passing should be examined critically.

The responsibility of the secondary school to develop a thoroughly democratized program of education for all youth has been generally accepted. A strong voice of opposition should be raised against those influences and changes which are appearing under the guise of national security and which would establish an undesirable pattern of secondary education and militate against those desirable curriculum practices now in effect or in the process of development.

INNOVATING PRACTICES IN SCHOOLS: A PANEL DISCUSSION[1]

Chairman: Earl R. Sifert, *Maywood, Illinois*

I. A PERSONAL AND FAMILY LIVING COURSE

CHARLOTTE L. GRANT, *Dean of Junior Girls, Oak Park and River Forest High School, Oak Park, Illinois*

DURING 1948 and 1949, a check list of health areas was submitted to juniors and seniors in order that some determination might be made of adequacy of instruction in health in the high school. Not only did the students indicate adequacies and inadequacies but also overlapping of certain instructional areas among departments. It is recognized that some repetition of material is advantageous to teen-agers, particularly when the approaches and methods vary. Further integration and correlation of health teaching became a function of the school health council which was made up of representatives from departments teaching health and courses closely related to health education, as well as of school personnel such as the nurse, cafeteria manager, and guidance staff.

High-school students indicated inadequacies in certain areas which would naturally concern them during the later adolescent years, such as phases of physical development and changes (mental and emotional) which would be closely correlated with physical growth. While some of the characteristics of adolescent development are taught at the freshman level in the high school where a course in health science is required, older students indicated a need for further instruction at the more mature levels. In a questionnaire which accompanied the check list they also specified a need for school instruction on personality and social development, boy-girl relationships, adult career planning, and marriage and family relationships.

As the result of such needs specified by the teen-agers themselves, a course was developed and initiated in February, 1950. It was limited to only one class for its experimental period, and offered as a senior elective. Sixteen girls and fourteen boys chose to assist in developing the course.

Since freshman health is taught in the biological sciences, the senior health course also gives credit toward science. Because of social science implications and applications, credit may be used toward the social sciences instead of the biological sciences if the student desires.

Throughout its initial development the class took an active part in developing materials and techniques for teaching the course. In other words, the course was *theirs* and they were led to take an active part in all proceedings. Topics for the course were developed from a questionnaire on personal background, interests, needs, and relationships with others. The title of the new course became *Personal and Family Living*. Four important topics were chosen and developed:

(1) Understanding Ourselves.
(2) Understanding Our Families.
(3) Understanding Others—including boys and girls, teachers, and part-time employers.
(4) Understanding Our Future—with emphasis upon vocational satisfaction as well as planning for marriage and parenthood.

While a textbook, *Personal Adjustment, Marriage and Family Living*, by Landis and Landis, was used, numer-

[1] This panel was a feature of the program of the Commission on Secondary Schools at Chicago, March 29, 1951. Mr. Sifert is Superintendent of Proviso Township High School, Maywood, Illinois, and Chairman of the Commission.

ous reference books and pamphlets were also available. The latter were employed to a large extent in developing the fourth topic.

Films were scheduled each week, and these were previewed by volunteers from the class in order that questions for discussion might be developed. Outside speakers from the community and the school faculty were delighted to appear before the class. Perhaps one of the most profitable sessions was a panel by parents and students on problems of the teen-ager. The class was invited to present problems for discussion and a panel chairman and recorder directed proceedings. Another very interesting class project was the development of problems encountered in student-teacher relationships. Two carefully chosen faculty representatives were invited to the class to discuss these problems with the students. Community speakers included such people as a minister, a doctor, an employer, a university professor, and a sociologist.

A variety of techniques was developed by the class and found very useful, such as panels, committee work, debates, reports, daily discussions, and interviews. Tests were constructed so as to have fewer definite information questions and more devices to bring out the application of information, attitudes on teen-age problems, and behavior characteristics of the students.

At the close of the semester a two-page evaluation blank was given each student. He was invited to express himself frankly, to give constructive criticism, and to turn in the paper unsigned. On the basis of this evaluation the course will be continued with certain suggested changes. Perhaps the most outstanding feature of this evaluation was the students' unanimous feeling that the course was entirely *their own*, built around themselves and guaranteeing active participation by them. As one young person wrote, "The course gave us a better chance to know ourselves and others better. Certainly this is the keynote of living together in tomorrow's world."

While the course, "Personal and Family Living," is in the experimental stage it will be limited to one class of seniors each semester. Such a group, however, will consist of both boys and girls and be representative of high-average, medium, and lower-average levels of the senior class. There will be no prerequisite for the course although all will have had the required freshman health science, and a majority will have elected biology sometime during the preceding three years. A number also will have had or be taking sociology or social problems in the social science department. Home management offered in the home economics department is more closely correlated with the new course than with any other class in the school. For this reason girls who have had home management are advised to replace "Personal and Family Living" with an elective which will give them an entirely new outlook and preparation for living.

II. A FAMILY LIVING COURSE

BERNICE W. SCOTT
North High School, Sheboygan, Wisconsin

THE SCHOOLS have recognized for a long time that they have a responsibility in the training of young people for family living, but the term as we now use it includes an area of human relations with which they have been reluctant to deal. They thought that surely this was an area in which the home and church must assume primary responsibility and that their part might be attained as a byproduct of their work in a number of other areas.

Like a great many schools whose students come from a divergent religious and educational background, we have felt that we must move slowly, that we must feel the pulse of the community. Gradually however, we have evolved a program which we hope meets the needs of our students, at least partially.

Our goal is two-fold: first, to help develop the attitudes that control conduct; and second, to provide intellectually satisfying information which may or may not control conduct.

We have approached the problem indirectly, that is the material has been integrated into a number of established courses. We haven't changed the name of any course but we have added to and changed the course content. Some of these courses are required of all students and some are elective. All, of course, carry credit. We begin the work in the ninth grade and carry it through the twelfth grade. What we are doing isn't unusual, it isn't even particularly new, but it is one way to begin and a way that I believe is being tried in many schools like our own.

The program is as follows:

There is one required course which includes work that trains for family living. In the ninth grade every student must take *Health* for one semester. The class meets twice a week and is taught to boys and girls separately by the physical education teachers. About half the course deals with family living and includes these three topics:

A. Emotional development of the human being.
B. Growing into maturity.
C. Planning for marriage.

Text material at this level is limited, so considerable use is made of the lecture method, reference reading in pamphlets, magazines, etc., and the question box idea to get at the problems of the individual students.

Biology also includes work in this area. There are three units in the course which give training in family living but they are completely integrated into the larger study of plant and animal life. The unit on *health* takes up communicable diseases, their nature, causes, effects and prevention. In the unit on *reproduction* the process is studied in all forms of plant and animal life from the very simplest form to the most complex. The approach is completely scientific. If questions come up that deal with human reproduction, they are answered to the best of the teacher's ability. The same approach is taken in the unit on *inheritance*. Biology is taught in mixed classes by the science teachers and is open to all students. Most tenth graders take it.

In *American Problems*, an elective course open to twelfth graders, one of the eight units is entitled *Successful Living*. It includes the following topics:

A. Development of personality.
B. The courtship period.
C. Preparation for marriage.
D. Family living.
E. The divorce problem.

The unit is a ten-week study and is taught in mixed classes by social studies teachers. In addition to text material, magazines, and pamphlets, a great many films are used including the "Marriage for Moderns" series.

The Home Economics department offers a course in *Home Training* which includes a unit on *Home Making*. In addition to studying the planning, building, decorating, and caring for the home, the unit includes a study of the family responsibilities of the members to each other, budgeting, etc. The course is entirely elective and is open to eleventh- and twelfth-grade girls.

In a course in the *Fundamentals of Nursing*, rudiments of the home care of the sick are taught. It includes diets, care of patients, baths, pulse and temperature, bed making, care of babies (including the birth process), communicable diseases, etc. This also is an elective course open to eleventh- and twelfth-grade girls and is taught with the full cooperation of a local hospital.

In evaluating our program, integrating our material into a number of courses *seems* satisfactory. However, though we reach *most* of our students at the ninth- and the tenth-grade level where they are just meeting boy-girl problems, we reach *very few* of our students on the twelfth-grade level where many are on the verge of establishing homes and families. If we really believe *every* boy and girl should have this educational experience, we must either build a new course and require it of all or revise the ones we have and require them of all students. If we do not feel that we are ready for that step, an elective course just in *Family Living* might attract many more students.

Then, too, the physical education teachers who handle the work on the required ninth grade level feel their material is not adequate. They would like to use films, on human reproduction for example, but are not permitted to do so.

There is also the problem of teacher personnel. Some teachers feel that they have not been trained to do this job and others, that they do not have the necessary personal qualities. Facts about family life can be quite readily taught, but attitudes are a different matter. To be able to set an atmosphere that will encourage honest, sincere discussion, to gain the students' confidence and yet hold their respect requires a high degree of skill.

Perhaps we are moving too slowly. I'm sure we are for *most* of our *students* and *some* of our *parents*. I'm equally sure we are moving as rapidly as we can for some of our students and parents. Perhaps our approach is too hit-and-miss, but we have tried to do it quietly, without making an issue of it.

We have just made a beginning. We know we have many problems to solve. We shall face them as rapidly as our community is ready for them and as we find the trained personnel to do the job.

THE CONTRIBUTIONS OF INDIANIANS TO THE WORK OF THE NORTH CENTRAL ASSOCIATION, 1895–1951*

CHAUNCEY GORDON WINSTON
Bennett College, Greensboro, North Carolina

THE NORTH CENTRAL ASSOCIATION of Colleges and Secondary Schools, which now comprises nineteen states, is one of the leading regional accrediting associations in the United States. In 1951 it rounded out fifty-six years of continuous service to the cause of education.

Indiana was one of the original states in the Association. Since it appeared that Indianians had been prominent in the work of the Association through the years, it was felt that it would be interesting to make a study of their contributions. Such a study was undertaken by the writer. Its objective was to determine who had been the contributors from Indiana to the work of the Association during the period, 1895 to 1951, what contributions they had made, when the contributions had been made, and the significance of the contributions.

It was hoped that the study, historical in its approach, would reveal accurate, easily accessible information which would serve as a source of inspiration to readers, supplement previous histories of the Association in contributing to an understanding of the nature and working of the Association, provide another basis for the evaluation of the lives and works of certain Indianians, and set a pattern for similar studies that might be made in the future.

Interviews with, and communications from, a number of persons who have been prominently identified with the work of the Association, certain published and unpublished literature dealing with the Association, and other materials, some of which were in danger of being lost to posterity with the passage of time, were used as sources for the study.

* * *

All told, 187 different Indianians have contributed to the North Central Association of Colleges and Secondary Schools during the above period. Eighty-one of them have been principals of secondary schools in Indiana; twenty, deans of schools or colleges of education, professors of education, and other college workers in the field of education; twenty-one, college presidents; fourteen, representatives of the Indiana State Department of Public Instruction; thirteen, superintendents of local school systems; thirteen, administrative officers of colleges in areas other than that of education; seven, non-administrative teachers of college subjects other than education; and four, instructors in secondary schools. There were also a high school student, a Governor of the State (when he made his contribution), a minister, a State Superintendent of Public Instruction in Indiana, a local representative of the Standard Oil Company, two college professors whose fields of specialization the writer was unable to determine, and seven workers of other types.

Eight of the fifty-six presidents, one of the eleven secretaries, and three of the eight treasurers of the Association, as well as one of the seven secretaries of the Commission on Secondary Schools, were Indianians. Further, two of the chairmen of the Commission on Colleges and Universities, two of the

* A brief abstract of a dissertation submitted in partial fulfillment of the requirements for the degree, Doctor of Education, at Indiana University.

chairmen of the Commission on Secondary Schools, and one of the secretaries of the Commission on Research and Service came from that state. The only offices in the Association which Indianians have not held are the secretaryship of the Commission on Colleges and Universities and the chairmanship of the Commission on Research and Service. John R. Emens, President of Ball State Teachers College, Muncie, was chairman of the Commission on Research and Service during the year, 1945–46, which was just before he entered educational work in Indiana, and Philip M. Bail was chairman of the same Commission soon after he left Butler University, Indianapolis, to become president of the University of Omaha, Omaha, Nebraska.

Five of the eight Indianians who have been presidents of the Association were connected with the Indianapolis public school system when they held the Association's highest office, as were two of the three Indianians who have been treasurer of the Association.

It seems that seven women from Indiana have contributed to the North Central Association of Colleges and Secondary Schools during the period in question. They were May Wright Sewall, then principal of the Girls' Classical School, Indianapolis; Anna C. Willson, principal of the high school, Crawfordsville; Mary E. Hallowell, principal of the high school, Columbia City; Helen Ederle, an instructor in education at the Indiana State Normal School, Terre Haute; Nila Banton Smith, Associate Professor of Education, Indiana University; Sister Marie Celine, principal of Saint Mary's Academy, South Bend; and Sister Cecile, Instructor of English and Latin at the same institution. Of these, it seems that May Wright Sewall was first to contribute to the work of the Association.

The length of the connections of Indianians with the work of the Association has varied from the time required to deliver an address, as, for example, was that of Paul V. McNutt, then Governor of the State, to the thirty years of active service rendered by George Buck, then principal of the Shortridge High School, Indianapolis.

There have been two periods in which the number of contributors from Indiana significantly increased. One was the decade, 1915 to 1925. The chief cause of the increase during that period was that, in 1916, the revised Constitution of the Association created three new Commissions to take the place of the Commission on Accredited Schools. With the increase in the number of Commissions came an increase in the activities of the Association. More persons from Indiana were thus drawn into its work. The other period was from 1945 to 1951. The increase during this latter period was chiefly attributable to the large number of high school principals from Indiana who served as members of the reviewing committees which examine the annual reports from member schools.

It is possible here to mention only a few of the more important Indiana contributors from 1895 to 1951, and to cite some of their more significant contributions. Clarence A. Waldo, then professor at Purdue University, J. W. Knight, then superintendent of schools at LaPorte; Joseph Swain, then president of Indiana University, and George S. Burroughs, then president of Wabash College, were the four Indianians who, in 1895, attended the meeting at which the Association was organized. Burroughs helped to draft the Association's first Constitution, and Waldo served as the Association's second secretary. Milo H. Stuart, then princi-

pal of Arsenal Technical High School, Indianapolis, served as treasurer of the Association from 1914 to 1922 and was largely responsible for the great increase in member institutions during that period. E. H. Kemper McComb, then principal of Emmerich Manual Training High School, Indianapolis, as treasurer of the Association from 1928 to 1937, handled the financial affairs of the organization with great care and skill when the country was in the grip of a great economic depression. George Buck, already mentioned, and Father William F. Cunningham, of Notre Dame University, served continuously as members of the Board of Review of the Commission on Institutions of Higher Education for sixteen and nineteen years, respectively. Carl G. F. Franzén, Professor of Secondary Education, Indiana University, has been prominently identified with revising the *Policies, Regulations, and Criteria for the Approval of Secondary Schools* and with developing and applying an instrument by which secondary schools in the Association are judged qualitatively. DeWitt S. Morgan, at first principal of Arsenal Technical High School, Indianapolis, and later superintendent of the Indianapolis schools, was the foremost leader from 1934 to 1942 in the work in teacher education of the Commission on Curricula of Secondary Schools and Institutions of Higher Education.

From the preceding enumerations one gathers that a substantial number of Indianians have made contributions of importance to the work of the North Central Association of Colleges and Secondary Schools. It seems probable that the geographical proximity of Indiana to Chicago, where most of the annual meetings of the Association have been held, is related to the number who have been influential in the work of the Association. It would be most interesting to see how Indiana compares with the contiguous states of Illinois, Wisconsin, and Michigan with regard to the number of individuals who have been influential in the Association's work.

A number of Indianians have influenced the direction in which the Association has traveled. This has been particularly true with regard to the work of the Commission on Secondary Schools. In this regard, DeWitt S. Morgan and Carl G. F. Franzén should be mentioned, and also L. A. Pittenger, who was then president of Ball State Teachers College, Muncie.

In summary, then, the Indiana contributors to the work of the North Central Association from 1895 to 1951 have largely been administrative officers of colleges and universities, college and university professors of education, and other members of schools and departments of education, superintendents of local systems, principals of secondary schools, and members of the Indiana State Department of Public Instruction. Relatively few college teachers of academic subjects, and an even smaller number of high school teachers, have contributed to the work of the Association. The preponderance of administrative officers of high schools and higher institutions among the Indiana contributors to the Association is understandable. The Association is an administrative organization, whose main concern is the accreditation and stimulation of member schools. School administrators are more concerned with problems of this character than are classroom teachers.

Women from Indiana have played a conspicuously small part in the work of the Association. Four of the seven women named in the preceding paragraphs were high school principals. This small number reflects the fact that relatively few women hold ad-

ministrative positions in the schools of Indiana.

The wide variety of contributions discussed in this article is indicative of the fact that the Association, during the period in question, dealt with a considerable number of educational problems besides accrediting colleges and secondary schools.

A strikingly large proportion of the officers of the Association from Indiana, especially presidents, have been persons who, at the time when they held office, were connected with the Indianapolis public school system. When interviewed, E. H. Kemper McComb, who was one of the most outstanding workers in the Association, felt that about the only explanation of the situation was that Indianapolis men had proved their ability and willingness to work for the Association, that their colleagues in the Association had confidence in their ability, integrity, and loyalty and consequently drafted them when they were needed. He also mentioned that the superintendents and other school authorities in Indianapolis have believed in the value of the Association and have been willing to permit interested members of their staffs to work in the Association and to have time to do so.

EDITOR'S NOTE

The report, *Growth in General Education*, a study of the revision of the Saint Xavier College general education program, was prepared by a committee drawn from the faculty of that institution. The study was made under the general supervision of the Subcommittee on Liberal Arts Education, of the Commission on Research and Service. It is printed in bulletin form in the QUARTERLY to facilitate possible later issuance as a separate publication.

GROWTH IN GENERAL EDUCATION

A STUDY OF THE REVISION
OF THE
SAINT XAVIER COLLEGE
GENERAL EDUCATION PROGRAM
1945–1952

K. LUCILLE MCCLUSKEY
SISTER MARIE THERESE MARTIN, R.S.M.
AND THE COMMITTEE STAFF

ST. XAVIER COLLEGE NORTH CENTRAL STUDY COMMITTEE

Sister Mary Josetta, R.S.M., *Chairman* (1945–1946)
K. L. McCluskey, *Chairman* (1946–1949)
Sister Marie Therese, R.S.M., *Chairman* (1949 —)

Sister Mary Anacleta, R.S.M.
Sister Mary Benoit, R.S.M.
Sister Mary Bertha, R.S.M.
Beatrice Callahan
Sister Mary Celeste, R.S.M.
Sister Mary Charlotte, R.S.M.
Sister Mary Consilia, R.S.M.
Very Rev. John W. Curran, O.P.
Sister Mary Dominica, R.S.M.
Sister Dorothy Marie, R.S.M.
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Mary E. Lukas
Sister Mary del Rey, R.S.M.
Sister Stella Maria, R.S.M.

GROWTH IN GENERAL EDUCATION AT SAINT XAVIER COLLEGE

INTRODUCTION

THOSE who are familiar with the early beginnings of the movement toward General Education know that the pioneers were, for the most part, agreed upon the areas of content which should be included: the humanities, the biological and physical sciences, and the social sciences. But they were confronted with the problem which for many is as yet unanswered: what will serve as the integrating factor among the various areas of knowledge? Robert Maynard Hutchins proposed metaphysics as a substitute for theology, which, in line with Cardinal Newman's thinking in *The Idea of a University*, he admits is the perfect unifying force. At a meeting at the University of Notre Dame in July, 1948, Mortimer Adler suggested the possibility of a *Summa* of philosophy embodying the truths upon which man could and would agree. On the other hand, James Conant, president of Harvard University, advances the idea that the natural sciences can fulfill this function. At any rate the search is on for a unifying factor, and popular among many who reject both philosophy and the natural sciences in this function is the idealized concept of democracy.

The definitions which have been set up to answer the question "What is General Education?" are many. A tremendous number of books, pamphlets, and articles has been written on this topic in the past ten years especially. Three of the better known ones follow.

The first is from the booklet *A Design for General Education*, a publication of the American Council on Education.

> General Education refers to those phases of non-specialized and non-vocational education that should be the common possession, the common denominator, so to speak, of educated persons as individuals and as citizens in a free society.

The famous report of the Harvard Committee states that as a whole education seeks to do two things: to help young persons fulfill the unique particular functions of life which it is in them to fulfill, and to fit them so far as it can for those common spheres which, as citizens and as heirs of a joint culture, they will share with others.

Earl McGrath, in *Towards General Education*, defines it as

> That which prepares the young for the common life of their time and their kind. It includes the fund of knowledge and beliefs, and the habits of language and thought which characterize and give stability to a particular social group. It is the unifying element of a culture. It prepares the student for a full and satisfying life as a member of a family, as a worker, as a citizen—an integrated and purposeful human being.

You will note that all three of these definitions have certain points in common. They seek a unified body of knowledge which will enable men to live not only a satisfying personal life but will also prepare them to work together for the common good.

The definition of General Education which the faculty at Saint Xavier College finally adopted was the result both of experience and prolonged consideration.

> General Education as defined by Saint Xavier College is that common fund of knowledge, understandings, techniques, and skills which when integrated with Catholic principles enables the student to interpret reality.

The clause, of course, which distinguishes our definition from the other three is "which when integrated with Catholic principles." The whole question of this integration with Catholic

principles is tied up with the function of our theology and philosophy program in our total educational pattern.

From its opening in 1916 until 1934, the College was a typical liberal arts college. Requirements for a degree were few, with much being left to the free election of the student. The changes which were being made in the curriculum at the University of Chicago influenced the thinking of the administration and faculty at Saint Xavier's. A program of general and divisional education was launched in 1934 on two levels under the direction of Sister Mary Camillus, R.S.M., who served as Director of General Education from 1935 to 1939. The lower level program, covering the first two years, included Freshman English and four general courses in the areas of the biological, physical, and social sciences, and in the humanities. Two sequences of three courses each and two electives were part of this lower level program. Courses on the upper level were grouped into four divisions: The Division of the Exact and Experimental Sciences, the Division of General Culture, the Division of the Social Sciences, and the Division of Philosophy and Religion.

This was indeed a period of evolution in the College. The content of the general courses had to be determined, faculty procured to teach them, and facilities provided to administer and to evaluate them. For the most part the general courses were of the survey type and highly factual. The Division of the Social Sciences developed its own syllabus right from the beginning. The syllabi from the University of Chicago were adapted, however, for the other general courses—in the natural sciences and in the humanities. Within two years the faculty in the biological sciences had developed its own syllabus.

In the beginning each of the general courses was taught by several members of the department. Experimentation proved, however, that one or two instructors could effect a more unified presentation.

The development of the comprehensive examinations was, of course, another big task. For several years we used the same English qualifying examination as the University of Chicago. In the other areas we developed our own comprehensive examinations, placing rather great emphasis upon factual information.

The change in the program required, also, certain modifications in the administrative set-up, particularly in the registrar's office. During this period our guidance program was amplified and developed.

The evils of individualism had certainly invaded the colleges—the elective system and the departmentalism which characterized practically all colleges, including Catholic ones, are proof of this fact. Faculty members, too, tended to be individualistic in their attitudes. It was not easy for the faculty, whose own training was highly specialized, to adjust immediately to a philosophy of education which by its very nature requires a high degree of thinking in terms of the whole program in order that the desired integration may be effected.

One of the first problems which occupied our attention about 1940 was that of the position of religion and philosophy in the total program. Our catalog at that time carried a description of a fifth general course—a General Introductory Course in Religion and Philosophy—which had been tested and had been thought to be unsuccessful. The idea that this course should be the integrating factor in the General Education curriculum was there; but the content of the course had not been developed, nor did we, at that time

have anyone on the faculty trained to develop such a course. Three members of the faculty were sent to confer with Rev. Bakewell Morrison, S.J., head of the department of religion at Saint Louis University, on the subject matter to be included in this general course. The outcome of this two weeks conference was the development in the following year of a general course in religion and philosophy which was taught to the freshmen in the College from 1942 to 1945. At the same time the religion program in the College was augmented to include a one year course in Scripture for the sophomores, while the juniors and seniors took alternately a course in the Commandments and one in the Sacraments with particular emphasis on marriage. Three courses were also required in philosophy: ethics, psychology, and one other elected philosophy.

In 1945, when we joined the Liberal Arts Education Study sponsored by the North Central Association, and attended the first summer workshop, there was dissatisfaction on the part of the faculty both with some of the general courses and with the religion program. Criticism of the program in General Education seemed to culminate in these points: the general courses were too extensive, resulting in superficiality; too factual, placing too much emphasis upon content and not enough upon securing desirable attitudes; and not sufficiently correlated with one another, a fact which permitted both unnecessary overlapping and omission of necessary material. In 1945 then, the faculty under the leadership of a committee undertook to revise the program of General Education. A series of forums, conducted by members of the English, social science, humanities, and philosophy and religion staffs, provided for the entire faculty a total picture of the General Education set-up, its merits and its weaknesses. Simultaneously, the Committee met weekly at two hour sessions to synthesize the forum findings, to formulate new or to modify earlier objectives, and to draw up an experimental program adapted to the attainment of those objectives. As a result of these meetings, the revised statement of purpose for the General Education Program and a list of objectives for General Education were drawn up. (See p. 378.)

The achievement of the various objectives required ruthless elimination of content. New general courses in communication, social science, humanities, and physical science, and a modified form of the course in biological science have been taught since 1946. The approach to the general course in communication is that it, too, is an integrating factor in the total program—a tool for all the disciplines. An effort has been made in all of these courses to teach content in terms of specific problems. They aim beyond mere assimilation of facts. By encouraging critical thinking on the part of the student, the courses aim at the development of certain definite abilities and attitudes. We were here confronted with the problem of making certain that in encouraging our students to think critically, we were encouraging them to think in the light of both immediate and ultimate principles.

Discussion of these general courses had stimulated frequently the question of just how their integration with Christian principles could best be accomplished. Until this question was definitely clarified, it seems as if no real unification of the program was possible. In September of 1945, with the assistance of Rev. William Barron, O.P., who had joined our faculty, we developed a course in theology from the Freshman course in religion and philosophy, and during the year worked

toward a four year program in theology and philosophy, for the entire college. In the spring faculty meeting of 1948 the program in theology and philosophy was formally incorporated into the curriculum of the College after three years of experimentation. The students meet two hours a week during the entire four years for theology, and in addition take three courses in philosophy: logic and psychology as part of their general education, and a third course, metaphysics, or the history of philosophy, for students whose field of concentration is the humanities or the social sciences; cosmology for those students working in the exact and experimental sciences. Running through the entire four years, this program in theology and philosophy provides an immutable basis of criteria for the content of the other areas of learning. Its integrating function is clear in its statement of purpose:

> The purpose of the course in theology is to provide the student with a mature understanding of the Catholic faith concerning God, *and of all other things in their relation to Him.*

Following the logical plan of the *Summa Theologica* of Saint Thomas Aquinas, the course proceeds scientificially according to the order of the subject matter. Each problem is viewed in its proper perspective, that is in relation to the whole science and also in relation to the parts of the science. In other words, the content of this course is not a group of unrelated problems, but rather a lucid exposition of Catholic faith and morals developed in perfect scientific order. The new course in theology is not the profound and detailed course that is taught in seminaries, but rather is adapted to the ability and needs of college women.

In evaluating our fundamental approach to the education of young women, we are using as our basis of criteria the objective of Christian education as explained by Pius XI in his encyclical letter on the education of youth:

> The true Christian, product of Christian education, is the supernatural man who thinks, judges, and acts constantly and consistently in accordance with right reason, illumined by the supernatural light of the life and example of Jesus Christ.

In introducing into the curriculum the *Summa Theologica*, the synthesis of faith and reason, we believe that we are making available to our students a knowledge of ultimate principles in the light of which they should be able to make their decisions. By changing our approach in the general courses from emphasis on the factual to emphasis on problems, we believe that we are providing our students with opportunities to make decisions on immediate problems in the light of both immediate and ultimate principles.

Many of our efforts during the past four years have been directed toward devising techniques of evaluation for the new courses. Comprehensive examinations designed to test critical thinking had to be constructed. One of our main projects has been the compilation of an examination in general education and one to test reactions involving emotions. It is with our efforts in these areas that the report which follows is mainly concerned—this report which is so definite a proof of the faithful zeal and diligence of our North Central Study Committee. It is not a finished document in the sense that it describes a work completed. It is rather the story of efforts made and of progress too, we hope, in spite of the fact that the conclusions drawn are in certain instances admittedly tentative.

In our efforts to revise our educational program, we are aiming professedly at a high ideal of integration. In accounting for the final result, however, we must consider in addition to

the data which the techniques of evaluation provide—and the Committee concurs in this—three other important factors: the other-than-school influences which have helped to form the student, the principle of self determination or free will of the student herself, and the grace of God. If our examinations show at the end of two or four years—and it would seem that they do—that the student has apparently developed power in forming judgments "according to right reason in the light of the teaching and example of Christ," we believe that we can validly assume that we have had a share in this development. Consideration of all these factors prevents the setting of an impossible goal—that of evaluating absolutely the effect of the educational program upon the student.

Members of our North Central Study Committee have found the Workshops a stimulating influence each summer. The friendly and encouraging counsel of The Workshop Staffs, and especially of Dr. Clarence Lee Furrow, Director of Study, Committee on Liberal Arts Education, has been a real factor in the development of the study on our campus.

Under the leadership of Dr. K. Lucille McCluskey and Sister Marie Therese, R.S.M., the North Central Study Committee has made a genuine contribution to our program. It was due to their persevering labor on this project, carried on in addition to a full teaching load, and to the generous cooperation of participating faculty members that the study has reached its present point.

SISTER MARY JOSETTA, R.S.M., *Dean*
St. Xavier College, Chicago

GROWTH IN GENERAL EDUCATION

THIS REPORT is a chronological account of the North Central Association Study made by Saint Xavier College of its general education program, from the inception of the study in 1945 until the present. The study began in response to an invitation extended in February, 1945, by the Committee on Liberal Arts Education of the North Central Association to participate in its project. The Committee gave the following direction to the participating colleges: "It is assumed that every institution entering the study will have a genuine interest in analyzing and improving its program and will share its discoveries with other cooperating institutions." In accordance with the responsibility implied, Saint Xavier College wishes to report the progress of this study and to share the findings with other member institutions.

Before the opening of the North Central Association Workshop in Higher Education at the University of Chicago in 1945, which was the formal initiation into this group, several of the faculty met with the Workshop representative to pool questions and suggest problems that might become the basis of the Saint Xavier College study. Many of the questions raised centered around the existing general education program. These questions seemed to indicate that the problem paramount at that time lay in this area.

At the closing session of the Workshop the following abridged report, which represents the work accomplished during the session, was presented.

THE REPORT OF THE SAINT XAVIER COLLEGE PROJECT

North Central Association Workshop in Higher Education — The University of Chicago Summer, 1945

Problem

To analyze the Saint Xavier College program of general education with the two-fold purpose of evaluating and improving it.

Outline

I. The faculty of Saint Xavier College is cognizant of the fact that certain aspects of its general education courses are unsatisfactory.
   A. They are too specialized in their content.
   B. They are not sufficiently integrated either within themselves or with one another.

II. A plan for remedying certain weaknesses has been decided upon.
   A. A retrospective survey of the general education program during the ten years it has been in effect will be presented at a faculty meeting early in September, 1945.
   B. A series of faculty forums will be presented for the immediate purpose of surveying the program and for the ultimate purpose of the evaluation and improvement of it. Forums dealing with the general courses in social science, biological science, physical science, humanities, theology and philosophy, and freshman English are to be conducted by the faculty responsible for these courses.

III. The faculty will pool both the results of their experiences and their ideas in an orderly, purposeful way.

IV. The committee anticipates the following outcomes:
   A. Interest in the improvement of the program should be stimulated in a majority of the faculty.
   B. Constructive suggestions for the improvement of the general courses should result.

THE FACULTY FORUMS

With the opening of college in the autumn of 1945, the faculty began a series of meetings, spaced at intervals of about three weeks, to carry out the plan outlined under Point II above. This series of meetings was opened with a survey of the general education program of the previous ten years. This meeting was followed by six others devoted to forums in English, theology and philosophy, social science, physical science, biological science, and humanities, referred to at that time as general culture.

Summaries of these forums are presented below preceded by a brief history of the Saint Xavier College general education program prior to 1945.

Brief History, 1916–1945

From the year of its opening in 1916 until 1935, Saint Xavier College had the traditional departmental system but exercised some supervision over the elective-system privileges. The opinion became prevalent that this program fell short of achieving desirable educational goals. Therefore, in 1935 there was introduced a program of general education for the first two years and a divisional plan for the last two years.

The general education program was developed around the following five basic courses: English, physical science, biological science, social science, and general culture. These courses were of the survey type, and the content was divided into sections comprising the disciplines of the area. The physical science course, for example, began with a section on mathematics followed in order by sections on physics, astronomy, chemistry, and geology. The content material of these sections contained many of the basic concepts and principles presented in the beginning courses in these sciences. Individual laboratory work was not a feature of this course, though class demonstrations were used.

Each of the five basic courses continued through two consecutive quarters and carried six and two-thirds semester hours of credit. At first each course was taught by several instructors who had specialized in the various

disciplines of the course; later, one instructor was held responsible for the entire course. After a ten-year period (1935–1945) with this program, certain dissatisfactions were apparent. Because of these the present study was initiated.

Summary of the English Forum

The English staff began the forum series with an analysis of the development of the courses in composition. In spite of experimental projects in sectioning based upon a careful testing program, of attempts to adapt instruction to varying abilities, of exposure to various types of expository writing, and of guidance in creative writing for some students, each staff member was firm in her opinion that the objectives could not be attained in two quarters of work in English. If three quarters could not be given to the work, the staff recommended that the course run through the academic year without increase in the number of instructional hours so that the time required for the reading and writing experiences of the composition courses might be more conveniently distributed. Furthermore, the students might remain more alert to the communication activities of the other courses in the curriculum. The ultimate objective of the courses was then, as now, effective communication. The immediate aim was that the courses be of use to the student in the communication activities of the other courses.

English 101 and *102*, the courses offered, stressed accurate reading and clear, well organized writing. Both emphasized the analysis and synthesis of articles representative of the kind and of the difficulty of the subject matter in the other courses. *English 101* stressed reading-writing devices such as note-taking, outlining, summarizing, epitomizing, etc., with considerable emphasis on organization. Students were trained in the use of the library, in functional grammar, and in effective sentence construction. The course emphasized the writing of short articles. The second course, *English 102*, was more advanced. Among other things it attached considerable importance to diction, including semantics, and to further use of the library. The documented expository article, requiring the synthesis of material from several sources and demonstrating logical organization and clear writing, was also emphasized.

Since both *English 101* and *102* were primarily reading-writing emphasis courses, the staff believed that with these courses as instruments, it could not realize its ultimate objective, *effective communication*. It believed that the courses should be concerned with the integration of the four processes of communication and that more specific emphasis should now be put upon speaking and listening than had been given during the past ten years.

In spite of the time and effort given to the multi-source expository essay, the staff judged that both the approach and the topics selected failed to encourage the kind of thinking from which the four processes of communication should stem. Through the preceding ten years the English staff had made a special effort to integrate its courses with those in the social sciences. Both the English and the Social Science staffs agreed (1) that the freshmen should work with problems of which their experiences had made them aware, and (2) that methods should be developed for the understanding and the solution of the problems.

The staff further recommended that laboratory facilities with up-to-date equipment be acquired. It also urged the cooperation of every division in re-

quiring students to apply the skills emphasized in the freshman English courses.

Summary of the General Culture Forum

With the introduction of the general education program at Saint Xavier College, the course in general culture was built around the objective, "to acquaint the student with the major achievements in literature, art, music, philosophy, and history, and to provide a basis for intelligent appreciation of the cultural and social aspects of western civilization." The course, which was presented from the chronological approach, encompassed such a vast amount of material that it was encyclopedic in nature. It was soon recognized that the objective was too comprehensive. In order to narrow the objective, emphasis was shifted from history to literature and fine arts. Although during the previous ten years much of the original material had been eliminated, the staff still felt that too much factual content remained. It was convinced that the best approach to the study of the humanities could be made by an intensive study of the basic principles and selected types of the arts.

The division asked that a greater proportion of time be allotted to the course in general culture, or, as an alternative, that the present number of instructional hours be distributed over the entire academic year in order that students might have more time for reading and for utilizing the various cultural opportunities in the Chicago area.

Lack of equipment such as special auditory and visual aids and the like was cited as a hindrance to the achievement of the desired objectives of this division.

Summary of the Biological Science Forum

The faculty in the field of biological science was aware that the individual branches of science are not academic entities to be presented to the students in isolated fragments. In the presentation of the general course in the biological sciences, which is a study of plant and animal phyla, evolution, the structure and functioning of the human organism, the mechanism of genetics, the interaction of environmental factors upon living things, and the biographies of important contributors to the science of biology, there was considerable emphasis upon basic factual information.

The presentation of this large amount of subject matter was by the lecture-demonstration method. Such visual aids as flora and fauna displays, charts, models, lantern slides, motion pictures, and microprojection of slides were used freely. Experiments which demonstrated some biological processes were performed, but the experimental method was not a feature of the course.

Summary of the Physical Science Forum

Early in January, 1946, the physical science faculty, by means of its forum, continued the survey of the general education program. This group stressed the value of the materials and experiences of the physical sciences in the development of logical thought, but expressed the conviction that systematic training in thinking could not be satisfactorily achieved in a course so extensive in scope and so unintegrated as was the present one. (A statement regarding the organization and content material of this course is given earlier in this report. See page 364.)

The lack of mathematical skills on the part of the freshmen was cited as a

serious drawback to the attainment of the desired goals. A course in fundamental mathematics was recommended for most freshmen. Lack of student participation in laboratory work was considered a weakness of the course, since it was believed that personal experience in experimentation can be a definite aid in the study of the physical sciences.

Summary of the Social Science Forum

The members of the Division of the Social Sciences considered the revision of the general course necessary. The course, as it was taught from 1935 to 1945, was divided into the areas of economics, sociology, and politics. The first part of the course considered the changes which had taken place and were taking place in economic society. It attempted to show how ideas and traditions, as well as science and invention, had changed an agricultural society into an industrial one. The second section of the course was given to the study of sociological problems. The students studied the changes that had taken place in the family, in education, and in religion. The third part of the course analyzed the effects of the rise of modern industry upon the political phase of group life. The rapid changes taking place in governmental theory and action, and the rights and obligations of nations in their international relations were subjects of study.

To eliminate the artificial barriers set up by this division of the course, the faculty of the Division of the Social Sciences recommended that an integrated course in the social sciences based on the needs of the students, the facilities of the institution, and the resources of the local community be offered.

Further recommendations were (1) that the instructors in this field have a background in theology and philosophy; (2) that the works of the best authors in the area of the social sciences be utilized in the reading assignments; and (3) that the students apply their theoretical training in gradually expanding social areas.

Because of its conviction that general education better prepares the student for professional work than does any pre-professional training, the faculty of the social sciences considered general education a vital part of any college program.

General Summary of the Forums

An analysis of the forum summaries revealed that no one was completely satisfied with the general education program at Saint Xavier College.

The analysis showed (1) that there was no unanimity as to what are the essentials of a good general education program; (2) that the amount of material in the courses was overwhelming; (3) that the objectives were too numerous to be achieved; (4) that the present organization of courses did not effect the integration essential in critical thinking; and (5) that even when the courses seemed reasonably satisfactory as preparation for later specialization, they were primarily information courses.

Through intensive study and discussion, the faculty had become more actively aware of the objectives common to all divisions in the general education program and realized that the work of developing a more integrated program of general education should be a matter of concern for all.

At the close of these forums a committee composed of a faculty member from each of the areas represented in the general education program was appointed by the Dean. The first directive sent by the chairman of this committee to its members follows.

The Chairman's Directive

February 25, 1946

The committee appointed in connection with the general education study has been assigned the task of planning a workable curriculum for a general education program to be based on suggestions, ideas, and criticisms of the faculty as a whole.

In order that each member of the faculty have an opportunity to participate actively in this program, I am asking that the chairmen of the divisions call a divisional meeting before March 15 to prepare a report to include the following:

1. A list of courses recommended by the respective divisions for the general education program.
2. An outline of suggested changes in the present courses together with a plan for practical operation, if these courses are considered satisfactory as a foundation for a general education program.
3. A plan for the introduction of new courses or the elimination of present courses.
4. An opinion on a foreign language requirement as a part of a general education program.
5. Other suggestions.

Signed
Chairman, North Central Study Committee

FACULTY REPORTS FOLLOWING DIRECTIVE OF FEBRUARY 25, 1946

February 25, 1946

Report from the English Staff

March 11, 1946

The following suggestions were made by the English staff:

1. *English 100*, now a non-credit course, should be discontinued; it should be replaced by a credit course emphasizing the fundamentals of communication.
2. *English 101* and *102*, the present composition courses, should be reorganized and supplemented on the basis of the processes of reading, writing, speaking, and listening.
3. The courses should form a sequence and should run through the academic year, whether with or without increase in the number of instructional hours.
4. A period a week should be given to speech with a specialist in the area, but training in speaking should not be a separate entity nor by any means be confined to one period.
5. Laboratory facilities would be conducive to the realization of the objectives.
6. The courses should emphasize problems of which students are aware either from life situations or from the reading experience of their substantive courses. Methods for solving or understanding the problems should be developed by the English staff in cooperation with other faculty members.
7. The staff desires that the faculty require students to apply the skills emphasized in the Freshman composition courses.
8. The sequence of courses—*Introduction to Poetry 103, Introduction to Drama 104, Introduction to Fiction 105*—should be retained in the general education program.
9. A foreign language requirement should be a part of the general education program.

Report from the Division of Exact and Experimental Sciences

March 11, 1946

The Division of Exact and Experimental Sciences is composed of biology, chemistry, physics, and mathematics.

1. A List of Courses Recommended for the General Education Program
   a. The biology staff recommends a course basically similar to the present one, and wishes to retain Biology 101, 102 and 103 (general zoology, botany, and physiology).
   b. The chemistry staff recommends a course in physical science basically different from the present one.
   c. The mathematics staff recommends one year of college mathematics.
2. An Outline of Suggested Changes in the Present Courses with a Plan for Practical Operation
   a. The biology staff makes no recommendations for changes in the present course.
   b. The chemistry staff prefers to develop a new course rather than to modify the present one.
3. A Plan for the Introduction of New Courses or the elimination of the Present Courses
   The mathematics staff recommends that a general course in mathematics be a part of the general education program.
4. An Opinion on a Foreign Language Requirement as a Part of the General Education Program
   a. The biology staff recommends a foreign language requirement as a part of the general education program.
   b. The chemistry staff recognizes the advisability of a foreign language requirement above the college entrance one for most students, but does not see how it could be made a part of the general education program. Perhaps a language might be required on the upper level.
   c. The mathematics staff suggests that two years of a foreign language be required of all students, but this requirement need not be a part of the general education program. It could be met at any time during the four years.

Report from the Division of General Culture

March 13, 1946

The following suggestions were made by the general culture division:

1. That educational guidance be made a definite part of the general education program and that such guidance be in the hands of a committee or, preferably, in the hands of a single full-time director.
2. That revision of the curriculum be accomplished by slow and careful procedures with the purpose of the year's work in mind;

namely, that the revision be based upon the re-evaluation of the present courses and that no drastic changes be made.
3. That any major changes in the curriculum be subject to faculty approval expressed through voting.
4. That no new courses need be added to the general education program.
5. That the general courses in the biological and the physical sciences should be reorganized to form one general course in the natural sciences and thus eliminate much of the technical content. This reorganization would permit a much needed quarter for freshman composition.
6. That the general courses should be extended over a longer period of time so as to allow for more extensive reading and better assimilation.
7. That sectioning of the students in the general courses according to their ability would lead to more satisfying results.
8. That a foreign language should be a part of a general education program.

Report from the Division of Social Sciences

March 14, 1946

At a meeting of the staff of the Division of the Social Sciences the following conclusions were reached:

1. That any reorganization of the general education program is satisfactory to this division provided that:
   a. The integrity and scholarship of the advanced education program be safeguarded.
   b. Certain policies be definitely stated and understood by the administration, faculty, and student body with regard to:
      (1) Aims of the general education courses.
      (2) Study-work programs.
2. That the general introductory course in social science be taught by a member of the social science staff, even though this arrangement necessitates limiting the number of the courses taught on the advanced education level.

Clarification of the Issues Raised by the Divisional Reports

At the next meeting held on March 20, 1946, the committee discussed these divisional reports. Not much progress was made because it was evident that there was no general agreement of the faculty on the scope and the aims of general education nor upon the methods of meeting the criticisms set forth in the forums. This lack of agreement centered around the following questions:

1. Should theology and philosophy be limited to the general education program or should it be a part of the total college program?
2. Should a foreign language be included?
3. Should beginning courses in the various areas be considered material for a general education program?
4. Should the general education program be limited to the five basic courses (the general courses in social science, physical science, biological science, English, and the humanities)?
5. Should the existing general courses be patched up and made over, or should entirely new courses be developed in order to eliminate acknowledged dissatisfactions?

Since the North Central Association coordinator was to visit the College on March 25, 1946, it was agreed that some of these problems should constitute the agenda for that meeting. On March 22, 1946, the committee met and prepared the following agenda:

SUGGESTED AGENDA FOR MEETING WITH THE NORTH CENTRAL ASSOCIATION COORDINATOR ON MARCH 25, 1946

1. A short review of what the faculty has accomplished in the six forums.
2. A short review of the work of the committee to date.
3. Questions to be submitted to the coordinator:
   a. Is there any concrete way of evaluating general education programs built around general courses in the field of humanities, natural science, and social science to determine whether they contribute more to the student's education than do the more conventional programs which use the beginning or introductory courses in these disciplines?
   b. Is it possible in an institution to carry on a pattern of general education combined with special education during the thirteenth and fourteenth years, or are the underlying philosophies contradictory?
   c. What is the place of foreign language in general education?

d. Should other courses such as a beginning course in biology be included in general education?
e. What seemingly effective procedures have colleges used to secure integration within an institution?
f. Have you observed some unusually effective means of integration of English composition with other subjects in general education?

The meeting of the committee on April 5, 1946, marked a turning point in the method of approach to the study of our problem. The faculty forums, committee discussions, professional readings, educational meetings, such as the 1946 North Central Association meeting, and the coordinator's visit were some of the experiences that influenced the change in our thinking. The committee meeting closed with the unanimous agreement that the first step to be taken was to establish objectives for a general education program which would meet the needs of the students of Saint Xavier College. The next directive sent to the committee members follows.

The Chairman's Directive

April 9, 1946

To the members of the North Central Study committee:

There will be a meeting of this committee Friday, April 12, 1946, from 1:00 to 2:15 in Room 316. The next work of this committee is to formulate objectives for our general education program. In preparation for our next meeting will you please bring a *written* list of objectives that you feel should be included? From these it may be possible to formulate objectives which we may later use as the basis of our general education program.

Signed _____
Chairman North Central Study Committee

PART I. STUDY OF OBJECTIVES OF THE GENERAL EDUCATION PROGRAM

In response to the directive above, lists of proposed objectives for general education were submitted by the committee members. The lists follow:

Set I

1. Integrity of personal character, stressing responsibility.
2. The right civic and social attitudes toward democratic ideals.
3. The realization of the good life as it is guided by Catholic theology and philosophy.

Set II

1. To contribute toward both a liberal and a specialized or professional education.
2. To attain a certain fund of knowledge and understandings that would serve as a common denominator for good citizenship.
3. To become acquainted with the basis for a good health education.
4. To acquire certain skills and abilities:
   a. Communication skills.
   b. Mathematical skills.
5. To stimulate and guide the thinking of students in the various areas of learning:
   a. Science—to train the student to interpret the natural phenomena of her surroundings and to understand the impact of science on society through the acquisition of scientific knowledge and skills.
   b. Other areas of learning.

Set III

1. To prepare the student in the lower biennium for work in the divisions.
2. To provide experiences which will guide the student in choosing her vocational field and which will be an aid to her in developing natural abilities.
3. To establish a wider scope of information and a deeper comprehension of the various areas of knowledge.
4. To develop leadership, character, and devotion to Christian ideals.

Set IV

1. Students should, at the end of the first two years of college work, be able to demonstrate:
   a. Ability to speak and to write correctly on topics of interest to themselves and others.
   b. Mastery, at a college level, of a special vocabulary in each of the subject matter fields of study.
2. Students should, at the end of the first two years of college work, have acquired the following specific skills:
   a. Communication skills.
   b. Study skills suited to the intelligence and needs of the students.
   c. Library skills sufficient to enable students to find and to use reference material intelligently.
3. Students should, at the end of the first two years of college work, have developed an appreciation of:
   a. The obligation of serving society according to professional and ethical standards developed in different classes.
   b. Opportunities afforded in a college such as Saint Xavier College.
   c. Their Christian heritage.
4. Students should, at the end of the first two years of college work, possess the attitude of:
   a. Responsibility to society, the Church, and the college.
   b. Independence in planning and executing some type of creative work.
   c. Loyalty toward school.
   d. Suspended judgment.

Set V

1. To bridge the gap between the education received in the secondary school and the special education of the field of concentration.
2. To lay the foundation for graduate study.
3. To furnish, in part, the education which every citizen should have outside of his vocational training.

Set VI[1]

1. Integrity of personal character, stressing responsibility.
2. The right civic and social attitudes toward democratic ideals.
3. Esthetic sensitivity.
4. Scientific sensitivity.
5. Realization of the good life as it is guided by Catholic theology and philosophy.
6. Intelligent communication through versatility in the use of the language.

The next three meetings of the North Central Study Committee were given to a study of the proposed objectives that had been submitted. Finally on May 16, the committee met in an all-day session to formulate the objectives. A report of this meeting follows.

[1] Adapted from Stewart G. Cole, *Liberal Education in a Democracy* (New York, 1940), pp. 48–68.

REPORT OF THE NORTH CENTRAL STUDY COMMITTEE MEETING

The North Central Study Committee met Thursday, May 16, 1946, for an all-day session. All members were present. After considering the objectives previously submitted, the committee formulated a definition of general education and agreed on five basic objectives. The definition and the objectives follow.

Definition and Objectives of the General Education Program

Definition: General education as defined by Saint Xavier College is that common fund of knowledge, understandings, techniques, and skills necessary for active participation in a free society, which, when integrated by Catholic principles, enables the student to interpret reality.

Objectives: The following objectives reveal specifically the content and the outcomes of those courses through which this general education is obtained.

1. Development of effective and intelligent communication through acquiring the basic skills of reading, writing, speaking, and listening that will enable the student to understand her fellowmen and to cooperate with them.
2. Interpretation of certain physical phenomena of surroundings and some applications of physical science to society through the study of energy and equilibrium, and the use of the scientific method.
3. Development of critical thinking on a limited number of social problems and the ability to make a choice of belief or action on the basis of ultimate values.
4. Cultivation of sensitivity to and intelligent appreciation of esthetic values, resulting in an awareness of environmental cultural opportunities through a study of selected masterpieces in literature, music, and art.
5. Interpretation of certain biological concepts and their application to daily living through the study of selected problems.

During the afternoon these questions were raised:

1. If we adopt these objectives, what courses have we that will develop the desired behaviors?
2. Shall we leave the general courses as they are or modify them?
3. Might the objectives be reached more effectively if the present general courses were laid aside and new courses devised on the basis of the objectives?
4. How much time should be allocated to the general courses?
5. How shall we evaluate the present courses in general education in terms of the new objectives?

Signed _____
Secretary, North Central Study Committee

After the formulation of the objectives, the committee discussed means of implementing them, and reached the following decisions.

1. The general education program should be built around five general courses in biological science, physical science, social science, communication, and the humanities. Although each one of these general courses would be principally responsible for achieving one of the objectives, each should contribute toward all of them. Each of these general courses would extend through two consecutive quarters carrying six and two-thirds semester hours of credit. The courses in physical science and communication would begin in the first quarter of the freshman year since it was believed that these courses emphasize basic skills necessary for the integration of the other general courses.
2. A foreign language should not be required.
3. Theology and philosophy should not be a part of the general education program since the study is continued through the whole four years.
4. The general education program should be completed by the end of the sophomore year.

TENTATIVE PLANS FOR THE NEW GENERAL EDUCATION COURSES

It became evident to most members of the committee that the general courses, as they then existed, could not be revised in a manner to achieve the objectives sought. The revision would require a complete change. New courses should be developed to effect the objectives formulated for the general education program. They should (1) be limited in scope and content in order that a more penetrating study might be made of the problems chosen; (2) be designed so as to place the emphasis upon the ability

to use facts, rather than to accumulate facts; (3) be correlated and integrated not only within the various disciplines of the course but with one another.

Physical Science Course

Within this framework, tentative plans for two new courses (physical science and social science) were drawn up. At the committee meeting on May 29, 1946, a topical problem plan for the development of the physical science course was presented by means of a chart. This plan sketched the development of the topic *Energy*, and the means for the integration of different phases of that topic with the general courses in social science and communication.

Social Science Course

The social science staff presented a tentative plan for a new course based on the objective, the development of critical thinking on a social problem. An example of a social problem, *Problems of American Life*, was submitted. The manner in which this social problem could be an instrument for the integration of social science with theology-philosophy, biological science, communication, humanities, and physical science was demonstrated. The meeting closed with the decision that faculty action on the plan for the revision of the general education program was necessary.

All of the members of the faculty were invited to attend the final meeting of the North Central Study Committee for the academic year 1945–46, held on May 31, 1946. The Chairman reviewed the work done by the committee during the year. The tentative plans for new courses in physical science and social science were presented. No opposition was offered by the faculty in attendance. Two faculty members from each of the staffs in the physical and the social sciences were then commissioned to develop these new courses for use during the coming year. The faculty members were released from teaching responsibilities during the summer session to work on the project.

PART II. THE REVISION OF THE GENERAL COURSES STUDY, 1946–47

The new general courses in communication, physical science, social science, and a modified form of the biological science course were presented for the first time during the academic year 1946–47. The new general course in humanities was organized in the summer of 1947 by a group of three faculty members released from reaching responsibilities. The course was given during the following academic year.

The following summaries indicate briefly something of the content, organization, and presentation of each of the courses offered in the general education program.

Summary I: The General Course in the Physical Sciences

Since the main objective of the general course in the physical sciences is to develop understandings basic (1) to the use of the scientific method; (2) to the interpretation of certain physical phenomena; and (3) to the application of physical science to society, the topic, *Energy and Equilibrium*, was chosen for the general theme of the course. It was believed that this subject matter would provide the kind and number of problems needed to develop the behaviors of understandings, skills, and attitudes set down as goals for the course. It was also believed that this subject matter would allow integration not only with the areas of communication and biological science but also with social science.

In order that this integration be effective, faculty members from the humanities, social sciences, and biological science met with the physical science staff to discuss what contribution was expected of the physical science course as a necessary background in the development of courses in these other areas. The presentation of the physical science course precedes all the other general education courses, except communication which is taken concurrently, because it is believed that certain fundamental principles and techniques of the physical sciences contribute to a better understanding of the biological and social sciences.

In the physical science course the various forms of energy from heat and light to nuclear energy are studied in the chronological order in which they were first used by man. No attempt is made to divide the course into the usual divisions of physics, chemistry, mathematics, geology, and astronomy. Material is drawn from all the areas of the physical sciences as the problem requires. An abridged outline, given below, of one of the problems of the course will clarify the preceding statement. In this problem it is evident that all disciplines of physical science are involved in arriving at the most logical solution to this problem with the data now available.

Problem I. What is the probable source of the sun's heat?

In attempting the solution of this problem consider the following:

(1) All of the artificial sources of heat available on earth.
(2) Whether any of these methods of producing heat on the earth are applicable to the sun.
(3) The probable age of the earth.
(4) The age of the sun with respect to the age of the earth.
(5) The equivalence of matter and energy.
(6) The theories that have been advanced for the source of the sun's heat.
(7) The data available. (Decide which data substantiate and/or discredit these various theories.)

Equilibrium is presented as a state

or condition in which opposing forces are balanced. The tendency to balance opposing forces is present in biological, chemical, social, economic, and political situations. Examples of these equilibria are analyzed.

The *scientific method* is presented, not as a sort of hopper into which a problem is dropped and the solution cranked out, but as an orderly procedure one follows in attempting to solve a problem. It is unimportant whether the problem is a personal one, a scientific one, or a social one; the solution techniques follow the same orderly pattern. The scientific method probably finds its greatest usefulness in the solution of problems in the physical sciences, since limitations are imposed upon it in dealing with problems, for example, of a social nature; yet, if the scientific method is faithfully followed, it should develop orderly patterns of thinking which may be followed in the solution of other problems. The scientific method involves certain steps or techniques and certain concomitant mental behaviors called "scientific attitudes."

The physical science course is accompanied by some fifteen laboratory experiments which the student carries out independently and which have been chosen because each illustrates some characteristic property or principle associated with the various forms of energy. Considerable attention is given to effective writing of the laboratory reports. The course requires selected readings, and the laboratory and classroom work is supplemented by sound films and film strips.

The following behaviors are expected as a result of the course:

1. Expected understandings.
   a. Of a certain number of ideas, principles, laws and theories necessary to interpret (1) some of the physical phenomena of one's surroundings, and (2) some important scientific discoveries.
   b. Of the role and function of physical science in society.
   c. Of the meaning, use, and limitations of the scientific method.
   d. Of the scientific vocabulary and symbolism necessary for the course content.
2. Expected abilities:
   a. To recognize and to define problems.
   b. To apply scientific principles to new problems.
   c. To use the scientific method in the solution of problems.
   d. To test hypotheses through experiment.
   e. To make observations.
   f. To make simple measurements, to record, and to organize data.
   g. To draw conclusions from data obtained.
   h. To read charts and graphs, used to collect, organize, and coordinate data.
   i. To read intelligently scientific literature written for the non-scientist.
   j. To make simple calculations.
3. Expected attitudes:
   a. Of sensitivity to problems.
   b. Of accuracy.
   c. Of intellectual honesty.
   d. Of critical-mindedness.
   e. Of open-mindedness.

At the completion of the physical science course a three-hour comprehensive examination is given which tests the following subject matter items:

1. Application of the scientific method in solving a physical science problem.
2. Ability to do critical thinking with given data.
3. Knowledge and understanding of important facts, theories, and principles;
4. Applications of principles to new situations.
5. Applications of science to society.
6. Interpretation of scientific symbolism (as used in the course).
7. Explanation of natural phenomena.
8. Definitions of scientific terms.
9. Simple mathematical calculations.
10. Evidence for theories.
11. Differentiation between fact, theory, and definition.
12. Interpretation of graphical symbolism.
13. Understanding of the principle of equilibrium and its application in physical science.

Summary II: General Course in Communication

The contribution of the course in communication to the general educa-

tion program is evident in the statement of its objective: the course aims to develop in the student the power of effective and intelligent communication through the basic skills of reading, writing, speaking, and listening that will enable the student to understand her fellow men and to cooperate with them. The degree of effectiveness and responsibility which a college student should attain has been determined only comparatively. We begin where the student is and adjust instruction to her ability. The importance of the course in our general education program is made clear by its underlying philosophy; that is, language is a social means for establishing relation between the writer or the speaker and the audience. The course is intended to be of immediate use to the students in preparing them for the communication activities of other courses. It does not really exist apart from other courses; it is integrated with them.

The course attempts to provide the following unified experiences which will give the student practice in each of the communication activities as she solves problems either as an individual or a member of a group.

1. Comprehension and appreciation in the area of reading are emphasized in order that the student attain critical power and personal and social satisfaction in leisure time. Briefly summarized the reading may be divided into three groups:
   a. Articles, current and otherwise, treating problems representative of the kind the students meet in other academic courses and in socio-economic life. (The articles are read analytically, discussed, defended or attacked orally and in writing, outlined, and sometimes summarized. The student becomes aware of the relation of speaking and writing to the reading process as she takes notes for oral and written discussion. She is also made aware of the importance of vocabulary and functional grammar in the reading as well as in the writing process.)
   b. A substantial amount of reading pertaining to the solution of a current problem which is treated in a multisource paper.
   c. Reading representative of the student's choice and taste: autobiography, informal and formal essays, biography, and poetry. (Diction and other features of style are emphasized.)
2. Skill in speaking and writing is developed by providing a number of significant experiences, some of which are the following:
   a. Giving directions of the kind needed in school, society, business, and church.
   b. Explaining a process, mechanism, and an organization.
   c. Defining terms in an appropriate extended form.
   d. Writing effective social and business letters.
   e. Making concise and accurate notes for a well defined purpose.
   f. Writing the short informal essay.
   g. Relating personal experiences in informal talks and essays and in the autobiography.
   h. Applying the principles of organization to reading, writing, speaking, and listening.
   i. Writing a documented essay treating a current problem and adapting the material to panel and round table discussions.
3. Skill in listening is emphasized in a number of experiences such as the following:
   a. Listening to directions and following them.
   b. Listening courteously to discussions of students and others and evaluating them.
   c. Listening to class lectures and taking intelligible notes from them.
   d. Listening to assembly and radio programs, and other lectures and evaluating them.

In order that communication be a meaningful, unified experience, the students are expected to acquire the following attitudes:

1. That communication is a cooperative process in which writer or speaker, and reader or listener must accept and bear responsibility.
2. That successful reading and listening are as important in communication as writing and speaking.
3. That successful communication depends upon the acceptance by the reader, writer, speaker, and listener of the responsibility of making value judgments.
4. That correctness of expression is the etiquette of communication and has relative value, but having something worth saying and using the most appropriate method and means of "telling" it has absolute value.
5. That in order to communicate accurately and effectively, one should be sensitive to the personal and social problems within the com-

munity, be intellectually honest, critical, and open-minded.

Summary III: General Course in the Social Sciences

The contribution of the course in the social sciences to the general education program is indicated in the statement of its general objective: development of critical thinking on a limited number of social problems and the ability to make a choice of belief or action on the basis of ultimate values.

In the revision of the course as planned by the members of the Division of the Social Sciences, a shift was made from a method which aimed at a factual survey of the social sciences to a study of specific problems, each related to the general objective and each directed towards the achievement of specific understandings, attitudes, and behaviors. In the selection of the problems an attempt was made to include some of the most important ones facing society today. The students are required to employ the principles of theology, economics, sociology, and political science in the solution of these problems. This course does not demand that the student make a first hand investigation of these problems, but she must review and contrast the investigations made by reputable scholars.

Since the general objective of the course is to improve the caliber of the student's social thinking, it is hoped that the study of these problems will bring her to a better understanding of their exact nature, to a more intelligent attitude toward them, and to a more socially efficient behavior regarding them. In the solution of these social problems, the student is made aware of the difference between a social problem and a scientific problem. She is instructed in the differences in aim, the materials used, and the tools employed in solving each of these types of problem. The procedure in presenting and analyzing the problems is not rigidly stereotyped. It follows this pattern: the general objective of the course is discussed as each new problem is introduced. The student is expected to determine how it differs from a scientific problem, to know something of the material and tools necessary for its solution, and to demonstrate certain behaviors of understandings and attitudes. As the problems are analyzed, additional material and tools are brought to the attention of the student.

The three-hour comprehensive examination which follows this course tests the ability of the student.

1. To apply the principles of social organization.
2. To interpret socio-economic graphs and charts (population changes, price index, income scales, etc.) in the light of certain principles and technical information.
3. To identify the assumptions and basic ideas of major writers in the field of social science.
4. To identify basic premises of major forms of political and social systems.
5. To detect the relationship between known facts and new problems.

Problem I, the first of six problems analyzed in the course in social science, and some of the behaviors involved in its study, follow.

Problem I: How can the culture contributions of racial and national groups be understood and appreciated so as to render less imminent domestic inter-group conflicts?

Behaviors Involved in Study of This Problem:

An *understanding* of the terms "culture," "culture trait," "culture complex," "culture center," and "culture area" is particularly necessary in order that the college student appreciate that the culture of her country has been enriched by cultural contributions of people of many races and nationalities. An understanding of the term "civili-

zation" is necessary in order that the college student realize that every social group has contributed its share to the development of one or more civilizations.

To indicate that she understands the meaning of these terms, the student uses her home neighborhood as a culture area and identifies each of the culture terms in the sense in which it has been defined. This unbiased study of minority groups in a population should develop an *appreciation* of the cultural contribution made by religious, racial, national, political, or economic minorities. It should help to develop an *attitude* of tolerance towards minority groups and should encourage emotional control regarding minority problems.

Summary IV: General Course in the Humanities

We may say that the revised general course in the humanities aims to make every student of Saint Xavier College an artist, provided that, in the term "artist," we include the one who enjoys the work of art produced by another as well as the one who himself produces the work. The objective of the course in the humanities, however, is not solely the student's enjoyment of the arts. Many of our students have long found in the arts, especially in music and literature, a source of satisfaction and enjoyment. To this satisfaction and enjoyment, the general course in the humanities endeavors to add on the part of the student an inquiring interest and thoughtful experience with the arts which will in time lead to intelligent appreciation. This the course does by an examination in each of the arts of the basic problems common to all the arts: what art is, what the relation of art to nature is, the problems involved in the materials, media, elements, techniques, and forms employed in the various arts, what unity means and what its aesthetic function is, what relation exists between function and beauty in a work of art, and other like problems.

We include in our general course in the humanities the major arts—literature, music, sculpture, painting, architecture, prints and, if time permits, some few of the minor arts such as ceramics, textiles, and work in precious metals. Again, within each art, our study is necessarily limited to a few forms: in literature, to the novel, drama, epic, and lyric poetry; in music, to the dramatic forms, to certain of the contrapuntal forms, to the symphonic forms, especially the symphony, concerto, and symphonic poem; and the solo song. The same limitation of material is necessary in the other arts.

In addition to her study in class of selected classics in the various arts, the student is directed to materials available for study in art galleries, record collections, libraries, architecture within reach, and other resources.

Though the list of works of art used in the course varies from year to year, the following examples are typical:

Literature

Drama—Sophocles, *Oedipus Rex*
Epic—Dante, *Divine Comedy*
Novel—Tolstoi, *Anna Karenina*
Poems—Milton, *Paradise Lost*

Music

Fugue—Bach, *Fugues from the Well-tempered Clavier*
Symphony—Beethoven, *No. 5 in C Minor*
Sonata—Beethoven, *Piano Sonata in E Minor*
Concerto—Mozart, *Piano Concerto No. 24 in C Minor*
Pastoral—Debussy, *Afternoon of a Faun*

Visual Arts

Painting—El Greco, *The Assumption of the Virgin*
Sculpture—Michelangelo, *Pieta*
Architecture—St. Paul's London; Santa Sophia, Istanbul; Contemporary architecture—especially churches.

Summary V: General Course in the Biological Sciences

The biology staff felt that it could achieve the new objectives of the general education program with its present course. The only change recommended was the introduction of individual laboratory problems.

This course, developed prior to the beginning of the North Central Study, is divided into the various disciplines of the biological sciences. An attempt is made to present, in the following order, the important facts and concepts of plant and animal phyla, evolution, physiology, genetics, eugenics, ecology, and biographical study. The following list contains the *major* objective for each of the preceding disciplines.

The objectives of the course are the following:

1. To acquaint the student with the major groups of living organisms (plant and animal kingdoms).
2. To interpret the major biological concepts.
3. To study the structure, nourishment, and functioning of the human body in order to understand the effect these factors have upon the life of man.
4. To study the theories of the evolutionists, the geneticists, and the eugenicists in the light of Catholic interpretation.
5. To study the relation of living organisms to their environment and to each other.
6. To learn something of the contributions of leading scientists to the field of biology.

The time allotment and credit hours for the general courses are shown in Table I.

TABLE I

TIME ALLOTMENT AND CREDIT HOURS FOR THE GENERAL COURSES

General Courses	Quarter System*		Semester System	
	Time Allotment	Sem. Hrs.	Time Allotment	Sem. Hrs.
Biological Science	2 consecutive quarters 5 days per week	6⅔	2nd Sem. Fresh. 5 days per wk.	5
Communication	2 consecutive quarters 5 days per week	6⅔	1st, 2nd Sem. Fresh. 4 days per wk.	8
Humanities	2 consecutive quarters 5 days per week	6⅔	1st, 2nd Sem. Soph. 3 days per wk.	6
Physical Science	2 consecutive quarters 5 days per week	6⅔	1st. Sem. Fresh. 5 days per wk.	5
Social Science	2 consecutive quarters 5 days per week	6⅔	1st, 2nd Sem. Soph. 3 days per wk.	6

* The College changed from the quarter to the semester system in September, 1949.

PART III. WORKING TOWARDS EVALUATION OF THE STUDY, 1947–48

During 1947–48 the North Central Study Committee was confronted with the evaluation of the new general education program. The following steps, generally recognized as an orderly procedure for an evaluation study, were adopted:

1. Formulation of objectives.
2. Statement of objectives in terms of behavior.
3. Development of instruments to test these behaviors.
4. Analysis and interpretation of results.
5. Determination of remedial measures.

Step 1, the formulation of objectives, was completed in 1946.

The evaluation of the general education program required that evidence be secured to show changes in thinking (cognition), in feeling (affection), and in doing (conation) brought about in students as a result of this program. These mental functions are the governors of behavior. Since a certain amount of mental activity is observable to the individual through introspection, any study of change in behaviors must be based on those which are observable by others.[1]

It is held that man is a somatopsychic organism and represents a unit that is non-divisible. The apparent separation of man's mental functions into three facets is made only for the purpose of this study. These mental functions are concomitant functions and not sequent functions.

GENERAL EDUCATION OBJECTIVES IN TERMS OF BEHAVIORS

Behaviors are subdivided here into (1) mental or intellectual reactions and (2) reactions involving emotions, attitudes, appreciations, sensitivities, interests, and habits.

[1] William F. Cunningham, C.S.C., *Pivotal Problems of Education*. New York: Macmillan Company, 1940, pp. 80–88.

The objectives formulated for the general education program were next stated in terms of the behaviors listed below.

Types of Behavior

1. *Intellectual Operations*
   a. Ability to gather data.
   b. Ability to interpret data.
   c. Ability to distinguish between relevant and irrelevant information.
   d. Ability to think in terms of graphical, mathematical, chemical, biological, and aesthetic symbols.
   e. Ability to formulate hypotheses.
   f. Ability to apply principles to new situations.
   g. Ability to make generalizations and to draw conclusions.
   h. Ability to use the scientific method to solve problems and to analyze and criticize the work of others.
   i. Ability to communicate effectively in writing and speaking.
2. *Operations Involving Emotions* (attitudes, appreciations, sensitivities, interests, and habits)
   a. Social situations.
   b. Scientific situations.
   c. Aesthetic situations.
   d. Religious and moral situations.

Definitions of Operations or Reactions Involving Emotions

For the purpose of *this* study *operations or reactions involving emotions* were defined as follows:

Interests—those things one pursues for the joy of doing—leisure time activities.
Appreciations—reactions showing an awareness to aesthetic values in music, art, and literature.
Sensitivities—reactions disclosing responsiveness to social and aesthetic situations.
Habit—an established behavior.
Attitude—a fixed resolve to act.

DEVELOPMENT OF TEST INSTRUMENTS

In order to evaluate the program of general education, a survey of available tests was made. None could be found that was based on objectives similar to those of our program. Two

test instruments, *Examination in General Education* and *Reactions Involving Emotions*, were therefore developed to evaluate (1) certain aspects of effective methods of thinking (mental reactions) and (2) behaviors related to specific attitudes, appreciations, sensitivities, interests, and habits.

Examination in General Education

For the preparation of the test instrument, *Examination in General Education*, each committee member was asked to devise test items designed to evaluate each of the mental reactions listed under *Behaviors*. (See page 386.) Then the committee as a whole studied, criticized, and re-edited the items submitted and chose fourteen of them for the test instrument.

Examples of Scientific Attitudes

Some of the scientific attitudes selected for evaluation were open-mindedness, critical-mindedness, intellectual honesty, habit of looking for causes, and sensitivity to problems. These scientific attitudes were defined in the following manner:

Open-mindedness requires that any conclusion drawn or judgment made must be free of bias, prejudice, intolerance, or bigotry; that the approach be objective and not subjective. It means, for example, a willingness to consider and analyze objectively data which do not support one's present convictions.

Critical-mindedness is the opposite of gullibility. It requires proof of statements made. The word of even a "specialist" is not just accepted. Critical-mindedness demands criticism of self as well as of others. To be critical-minded, one must possess the ability to detect flaws in the evidence or argument presented.

Intellectual honesty requires that absolute honesty prevail in every phase of any study. It demands an accurate and complete report of all data available, and acknowledgment of errors made as soon as discovered, and inclusion of *no* data not actually obtained.

Habit of looking for causes recognizes that nothing happens without a reason or cause. The habit of attributing phenomena, or events not understood, to some mysterious cause shows complete absence of this attitude.

Sensitivity to a problem requires the ability to recognize the existence of problems and to perceive relationships.

Sample questions taken from the five different areas of the general education program are presented below.

Sample Questions from First Test Instrument Examination in General Education

Below are sample questions drawn from biological science, communication, humanities, physical science, and the social sciences which were submitted as types that might be used to evaluate to some degree the attainment of the intellectual operations listed on page 386.

The students have no previous experience with the particular test items, but the understandings pertinent to their solution are treated in the courses. Both the objective and the essay-type questions are used.

Sample Question 1: Submitted by the Biological Science Faculty

This question might be used to test the ability to apply principles to new situations.

Direction: Blacken the answer space which designates the correct explanation.

Mendel produced seeds by crossing tall and dwarf varieties of peas.

All plants grown from these seeds were tall; none were dwarf. When the

seeds from this generation were planted, they produced a generation that consisted of both tall and dwarf plants. Mendel counted the number of tall and dwarf plants in this generation and found that approximately three-fourths were tall and one-fourth were dwarf.

The above statements might be explained by the following:

A. Two pairs of factors.
B. Simple Mendelian inheritance.
C. A modified two factor ratio.
D. Linkage.
E. None of these.

This question tests the following:

A. Understandings
   1. Mendel's findings:
      a. The principle of dominance.
      b. The principle of unit characters.
      c. The principle of segregation.
   2. Monohybrid cross.
   3. Dihybrid cross.
   4. Ratio.
B. Ability to apply these understandings.

Sample Question 2: Submitted by the Communication Staff

This test situation drawn from communication evaluates some of the abilities a student must have in order to think and communicate effectively.

Direction: Read the following letter carefully.

ADVICE TO A BEGINNING SCHOLAR[1]

Luxor, 2 January, 1873

p. 235. (1) I have received your letter of November 3rd just as I was leaving Cairo, and as I have been busily reading myself, I delayed answering till I knew what I had to say. So far as I can see, you are acting on good advice and working in such good company that I can add very little to your means of getting ahead. Perhaps to a critical eye, the field you have entered may seem rather wide. I doubt whether a man can profitably spread his reading over a very large range unless he has some definite object clearly fixed in his head. My wish is to lead you gradually up to your definite object, but what it must be will depend on the bent of your own tastes. I can only tell you the style of the thing that seems to me best.

p. 236. (2) The first step seems to me to be to familiarize one's mind with thoroughly good work, to master the scientific method, and to adopt the rigid principle of subordinating everything to perfect thoroughness of study. I have therefore advised your learning German, because I think the German methods so sound . . .

p. 237. (3) I proposed no more to the fellows who are kind enough to think my teaching worth their listening to—those of them I mean who take the thing in the spirit I offer it in—than to teach them how to do their work. The College chose to make me Professor of History—I don't know why, for I knew no more history than my neighbors. And it pitchforked me into mediaeval history, of which I knew nothing. But it makes little difference what one teaches; the great thing is to train scholars for work, and for that purpose there is no better field than mediaeval history for future historians. The mere wish to give a practical turn to my men has almost necessarily led me to give a strong legal bent to the study. Starting from this point, I found that at the outset the Family was the center of early law. To study the Family, therefore, in its different relations, was the natural course to follow. From this point we must follow down the different lines of development. The organization of the Family, the law of inheritance, of testaments, of land tenure, of evidence and legal procedure, the relations of the Family to the community, in its different forms of village, county and state, as well as many other parallel lines of study lay open before me and I have only to indicate them to true students whether of law or of history, and let them go to work and develop them. Of course I don't pretend to have mastered these subjects myself. No one has yet done so. But men like you and Ames can win a reputation by following up any one line of investigation, and the occupation is as good as mathematics for the logical faculty, while it leads ultimately all the nearer to the subject of historical study.

p. 237. (4) Of course our own law and institutions are what we aim at. I think you would do well to keep this in mind and to take some special line of work as soon as you have become tolerably acquainted with the general bearings of things. Of course you will choose whatever you think best suits your tastes. It does not follow that preliminary legal reading is to make you a historian of law, any more than preliminary grammar reading would result in making you a historian of philology. It

[1] *Letters of Henry Adams 1858–1891*, ed. by W. C. Ford. Boston: Houghton Mifflin Company, 1930, pp. 235–237. Permission of publisher.

matters very little what line you take provided you can catch the tail of an idea to develop with solid reasoning and thorough knowledge. America or Europe, our own century or prehistoric time, are all alike to the historian if he can only find out what men are and have been driving at, consciously or unconsciously. So much is this the case that I myself am now strongly impelled to write an Essay on Egyptian Law, for I have a sort of notion that I could draw out of that queer subject some rather surprising deductions; perhaps I could fix a legal land-mark in history, but I have too much on my hands and must let the Cheopses and the Ramses alone . . .

p. 237. (5) Pray give my best regards to your wife.

H. A.

Using the letter of Henry Adams to Henry Cabot Lodge, carry out the following directions:

I. List in eight or more concise imperative sentences the main points in Henry Adams' advice to a beginning scholar.

II. Write an essay consisting of two paragraphs.
   A. In the first paragraph state the theme and give the significant ideas of Henry Adams.
   B. In the second paragraph judge these ideas according to guiding principles and draw the conclusion.
      1. If you are an entering freshman, consider principles set up by the high school from which you were graduated.
      2. If you are a sophomore, consider principles set up by St. Xavier College.

   Note that the situations are not alike but analogous; therefore your conclusion will be relative.
   C. Make an effective transition between the two paragraphs. Remember you are writing one essay, not two.

Analysis of Questions

1. Question I is designed to test the ability:
   a. To interpret data.
   b. To summarize.
   c. To distinguish between relevant and irrelevant information and to communicate it in a specific kind of sentence.
2. Questions in Group II are designed to test the ability:
   a. To make generalizations and to draw a conclusion.
   b. To apply a principle to a new situation.
   c. To use effective devices of communication.

Sample Question 3: Submitted by the Humanities Faculty

Direction: The questions under A and B refer to the photographs that have been given to you. Indicate in the appropriate blank on the answer sheet the most likely completion.

A. *Architecture*
   1. The interior of Church IV is shown in photograph —
   2. Most remote from classic forms in detail and structure is photograph (interior) —
   3. Remote from classic forms is the interior represented in photograph —
   4. Church I is (A. Byzantine; B. Romanesque; C. Gothic; D. Early Renaissance; E. Late Renaissance or Baroque) —
   5. Church VI is (A. Byzantine; B. Romanesque; C. Gothic; D. Renaissance; E. Baroque) —
   6. Representative of the architectural style of the counter-Reformation is photograph —
   7. Church VIII is (A. Early Christian; B. Byzantine; C. Romanesque; D. Gothic; E. Renaissance) —
   8. A lintel ceiling is supported by column and arch system in photograph —
   9. A vaulted ceiling is supported by column and arch system in photograph —
   10. A campanile is seen in photograph —
   11. A rose window can be seen in photograph —
   12. Flying buttresses can be seen in photograph —
   13. Clustered columns are evident in photograph —

B. *Sculpture*
   1. The earliest work illustrated above is photograph —
   2. Archaic Greek sculpture is illustrated in photograph —
   3. Classical Greek sculpture (in the round) is illustrated in photograph —
   4. Idealism in Greek sculpture with its resulting generalization is illustrated in photograph —
   5. The baroque sculpture of the Hellenistic age is illustrated in photograph —
   6. Romanesque or early Gothic sculpture is illustrated in photograph —
   7. Distortion is evident in photograph —
   8. The carrying of impressionism into sculpture can be seen in photograph —
   9. Roman realism is illustrated in photograph —
   10. Christianity furnished the subject of the Renaissance sculptor who did the work illustrated in photograph —

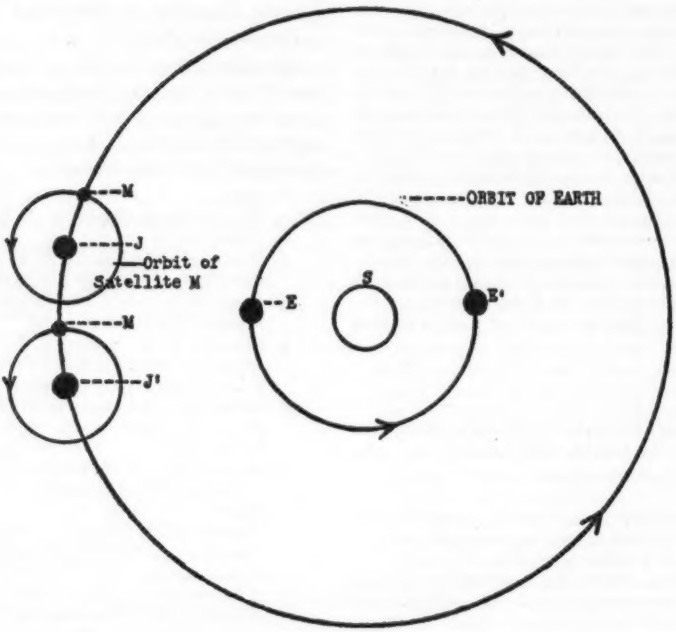

FIGURE 1

S—Sun.
E—Position of earth.
E′—Position of earth 6 months later when it has traveled one-half way around its orbit.
J—Position of Jupiter when earth is at E.
J′—Position of Jupiter 6 months later. (It takes Jupiter 12 years to travel around the sun while it takes the earth but one year.)
M—One of the satellites of Jupiter with a period of revolution of 42 hours.

Sample Question 4: Submitted by the Physical Science Faculty

Direction: With the aid of the diagram (Figure 1), its legend, and the given statements blacken the appropriate answer spaces.

Jupiter and the earth are planets traveling around the sun at distances from it of 489,000,000 and 93,000,000 miles respectively. In its revolution the satellite M (moon) disappears behind Jupiter and becomes eclipsed by the planet. This disappearance of the satellite occurs every 42 hours. When the earth and Jupiter were in their respective positions at E and J, Roemer, a Danish astronomer, after studying the frequency of this eclipse charted a time schedule for future eclipses. Six months later when the earth was in position E′ and Jupiter was at J′, Roemer discovered that the eclipses were 16⅔ minutes *later* in arriving then he had calculated. While the earth was at position E′, he charted a second schedule based on observations taken in this position. When the earth arrived back at E, the eclipses came 16⅔ minutes *earlier* than he had calculated for the second schedule.

1. The difference of 16⅔ minutes between the time of the actual appearance of the eclipse and that calculated for it six months earlier

can be explained by the fact that

A. The satellite has a faster speed when the earth and Jupiter are on the same side of the sun, since at that time there is a greater attraction between them.
B. The period of revolution of the satellite around Jupiter is not constant.
C. The earth has a variable speed as it travels around the sun.
D. The light, which comes from the sun and is reflected by Jupiter and its satellite to the observer, must travel a greater distance to reach the earth at E′ than at E.
E. All celestial bodies moving around the sun travel at their maximum speed when they are closest to the sun.

2. The distance from E to E′ is:
   A. 93,000,000 miles.
   B. 286,000,000 miles.
   C. 186,000,000 miles.
   D. 46,500,000 miles.
   E. Some other distance.
3. An object traveling a distance equal to that from E to E′ in 16⅔ minutes would have a speed per *second* of:
   A. 588,000 miles.
   B. 1,116,000 miles.
   C. 186,000 miles.
   D. 1,860,000 miles.
   E. None of these.

Sample Question 5: Submitted by the Social Science Faculty

The new course in the social sciences is developed around six basic social problems. Subsequent to the study of each problem, an evaluation is made through a test problem similar to that given below for *Problem I* which is studied for approximately six weeks.

Problem I: How can the culture contributions of racial and national groups be understood and appreciated so as to render less imminent domestic intergroup conflicts?

Test Problem Designed to Test Several Abilities at the Same Time

Assume that you are a social scientist hired by the federal government to study conditions among the American Negroes and are to recommend a program of action in the interest of the general welfare of the nation as a whole.

1. Upon what social scientific principles would you base your study?
2. What method would you use in the study?
3. What conditions would you probably find?
4. What would you recommend in view of them?

These questions relate to Problem I of the general course and follow one another in a logical sequence.

The list of requirements for answering these questions follows:

1. The first question requires an exposition of the social scientific principles of truths upon which the hypothetical study would be grounded.
2. The second question requires an outline of the steps necessary to determine empirically the nature and extent of the conditions mentioned.
3. The third question requires a statement of the probable findings that such methodical steps might yield.
4. The fourth question requires a diagnosis of the inadequacies of the *status quo* and the formulation of a program of action for their elimination.

While these questions might be used to test several of the nine mental reactions listed under *Behaviors* (see p. 386), a recent evaluation was made on only the behaviors listed below:

Question 1 was used to determine the ability of the student to apply appropriate principles to a problem situation.

A partial list of previously known principles upon which the student should have based her responses follows:

1. There is an equal distribution of native capacities among all races.
2. Apparent disparities between races are due to social conditioning.
3. Attitudes toward a race result from social conditioning based on myth rather than fact. The purpose of the myth is to preserve the *status quo* (in this problem, *race*).
4. Attitudes can be changed if social situations are changed.

Question 2 served to evaluate the student's ability to use the scientific method in the solution of a social problem. More specifically this evaluation

was based on the ability of the student to state the problem, present data, organize and interpret the data, reach a conclusion, and make practical recommendations.

In evaluating *question 3* and *question 4*, an attempt was made to measure the ability of the student to distinguish between relevant and irrelevant information, to formulate hypotheses, to make generalizations, and draw conclusions. A serious attempt was made to measure the ability of the student to communicate effectively.

TEST OF REACTIONS INVOLVING EMOTIONS

For the second instrument, *Reactions Involving Emotions*, a similar procedure was followed. Each committee member prepared items that were intended to test attitudes, appreciations, interests, sensitivities, and habits. From those submitted, fifty-two were selected for the test. A few sample items are included in this report.

Sample Items from Second Test Instrument

Test of Reactions Involving Emotions

1. This item was intended to measure *Habit of Looking for Causes*

Direction: Check the course of action you would most likely follow if you had the following experience:

Your desk drawer contained, besides the usual writing supplies, pieces of aluminum and uranium metals, sewing supplies, and a package of photographic plates wrapped securely in the conventional black paper. Upon examination you find the photographic plates to be in a condition as if they had been exposed to light.

I would

___ 1. Conclude that black paper does not protect photographic plates from light.
___ 2. Discard the plates without further thought.
___ 3. Report the incident to a photographer.
___ 4. Perform experiments to test the effect of the individual contents of the drawer on photographic plates known to be unexposed to light.
___ 5. Assume that the plates were defective when purchased and file a complaint with the merchant.

2. This item was intended to measure *Open Mindedness*

Direction: Check the statement with which you are in most agreement.

A blood transfusion from a Negro to a white will

1. ___ Always kill the white.
2. ___ Always weaken the health of the white.
3. ___ Improve the health of the white if other conditions are equal and the negro and the white are of the same blood type.
4. ___ Darken the skin of the white.

3. This item was intended to measure *Reading Interests*

Direction: Below is a list of magazines. First, draw a line through those which you have never read. Insert the name, in space 10, of a magazine of your choice which has not been included in this list. Place *1* in the space before the magazine of your first choice; *2* before your second choice; and *3* etc.

1. ___ *The Red Book*
2. ___ *Life*
3. ___ *Commonweal*
4. ___ *Ladies' Home Journal*
5. ___ *Atlantic Monthly*
6. ___ *American*
7. ___ *Saturday Evening Post*
8. ___ *Pic*
9. ___ *Reader's Digest*
10. ___ _____

4. This item was intended to measure *Aesthetic Appreciation*

Direction: Check the statement that is most nearly correct for you. In a musical composition, the element which holds the greatest appeal for me is

1. ___ Rhythm
2. ___ Melody
3. ___ Harmony

5. This item was intended to measure

Critical Mindedness

Direction: Indicate by check the course of action you would most likely follow.

In evaluating a work of art, whether in literature, art, or music,

1. ____ I depend entirely upon my own judgment.
2. ____ I make my evaluation in accordance with the opinions, written and verbal, of critics in the field.
3. ____ I consult the opinions of competent critics but form my own judgments.

PART IV. ANALYSIS AND INTERPRETATION OF THE RESULTS OF THE EXAMINATIONS USED IN THE GENERAL EDUCATION PROGRAM

Section A: The Freshman Testing Program, 1948–51

Part IV is an abridgement of the reports submitted to the faculty in June, 1949, 1950 and 1951, respectively, by the North Central Study Committee on Evaluation. The previous steps of this evaluative study, the work of the 1945–48 period, were the formulation of objectives, the statement of objectives in terms of behaviors, and the development of instruments to test these behaviors. The problem of the North Central Study Committee on Evaluation from 1948–51 was to obtain data from the use of tests for the evaluation of the new general education program and the analysis and the interpretation of the test results.

THE FRESHMAN TESTING PROGRAM

Battery of Selected Tests

The 1948 General Education Freshman Testing Program consisted of a battery of tests administered to the freshman class during a three-day period at the time of entrance in September. These tests included the 1948 editions of the *American Council on Education Psychological Examination;* the *Purdue Placement Test in English, Form A;* the *University of Notre Dame Religion Placement Test for College Freshmen, Form D;* the *Saint Xavier College Arithmetic Test;* the *Saint Xavier College Examination in General Education;* the *Saint Xavier College Test of Reactions Involving Emotions;* and one of the following standardized language tests: the *Cooperative Latin Test—Lower Level, Form S;* the *Cooperative French Test—Higher Level, Form S;* the *A.C.E. German Reading Test, Form B;* and, the *Cooperative Spanish Test—Revised Series Advanced, Form P.* Except for different editions of the standardized tests, and the addition of *Part II, Examination in General Education,* the same battery of tests was used in 1949 and 1950.

Use of the Tests

The American Council on Education Psychological Examination and the *Purdue Placement Test in English* were used for an over-all student evaluation and for class sectioning purposes.

The religion test was given as a courtesy at the request of the University of Notre Dame, which was attempting to establish norms for the examination.

The *Saint Xavier College Arithmetic Test* was used to ascertain the students' level of achievement in the basic arithmetical skills.

The two new tests—the *Saint Xavier College Examination in General Education, 1948 Edition,* and the *Saint Xavier College Test of Reactions Involving Emotions, 1948 Edition,* were designed to evaluate, respectively, certain aspects of effective methods of thinking, and behaviors associated with attitudes, appreciations, sensitivities, interests, and habits. The tests were used at entrance to obtain a base line for the evaluation of our general education program. It was planned that these two tests, or comparable ones, would be administered at the end of the year to the sophomore classes of 1950, 1951, and 1952.

As an experiment the *Examination in General Education* was used also as a means for determining which of the entering freshmen would be permitted to take one or more of the comprehen-

TABLE II

SUMMARY OF SCORES AND RANKS AT ENTRANCE BY STUDENT 55 — 1948

Test	Possible Score	Student's Score	Student's Local Rank
A.C.E. Psychological Examination, 1948 Ed.			
Q Score	80	60	3
L Score	120	92	2
Total Score	200	152	2
National Percentile Rank 98			
Purdue Placement Test in English, Form A			
Reading Comprehension	20	20	5
Total Score	274	184	7.5
National Percentile Rank 95			
Saint Xavier College Exam. in General Education			
Biological Science	—	42%	58.5
Communication	—	88%	1
Humanities	—	63%	1
Physical Science	—	60%	2.5
Social Science	—	63%	6
Total Gen. Educ. Average 63.2%	—		1
Saint Xavier College Arithmetic Test	100%	93%	8
Language Test (Latin Test Lower Level), Form S		53	23.5*
Univ. of Notre Dame Religion Placement Test for College Freshmen, Form D	150	132	6

* In group of 58 who took Latin test at entrance.

sive examinations in the general education program. It was agreed that any student who passed the comprehensive examination in one of the five areas, would be excused from taking the general course in that area. As a result of this experiment, in 1948 eight students were excused from all or a part of the course in communication, one was excused from physical science, one from biological science, one from social science, and none from the humanities; in 1949, eleven students were excused from all or a part of the courses in communication, one was excused from biological science, two from social science, and none from the humanities or physical science; in 1950, fifteen students were excused from all or part of the course in communication but no one was excused from the other general education courses.

Table II is a typical record of test data collected for each student at the time of entrance. A number is permanently assigned to a student and is used to identify her in all records pertaining to the General Education Study.

RELIABILITY AND VALIDITY OF THE TEST INSTRUMENT

Examination in General Education

Evaluation of students must be based upon acceptable criteria. Therefore the committee began to examine critically the *Examination in General Education* to determine its reliability and validity. At this point the committee participated in an intensive *in-service study* of the statistical analysis

of tests. The study moved from a review of the basic definitions of reliability and validity to the use of the various statistical methods of evaluation.

The reliability of a test, the consistency with which it measures some capacity of those taking it, is usually established by (1) repeating the same test after a short interval of time with the same group; or (2) by giving comparable forms to the same group at different times; or (3) by giving a split-test. The correlation between the two sets of scores obtained under either (1) or (2) gives the reliability coefficient of the test. In the case of the split-test, the test is divided into two parts of equal length and difficulty, and the student is given a score for each part. The two sets of scores are correlated to give the reliability coefficient of the half-test. By the use of the *Spearman-Brown* formula, the reliability coefficient for the whole test can be calculated.

The validity of a test, the degree to which it does measure whatever capacity it claims to measure, is often determined by correlating the test in question with some standard test which has been accepted as a satisfactory instrument for measuring the capacity in question. The instructors' rating of students in the area covered by the test in question may be used also as criteria for the purpose of establishing validity.

STUDY OF RELATIONSHIPS BETWEEN TESTS

Though the *A.C.E. Psychological Examination* and the *Saint Xavier College Examination in General Education* are not comparable and do not purport to measure the same thing (the *A.C.E. Psychological Examination* measures the general intelligence at the college entrance level, and the *Examination in General Education* measures certain aspects of effective methods of thinking), it is reasonable to expect some correlation; for it would be difficult to believe that a high degree of intelligence would exist apart from development of powers of critical thinking.

For exploratory purposes it was decided to correlate the scores from the total and parts of the *Examination in General Education* with the total scores and the part scores from the *American Council on Education Psychological Examination* and the *Purdue Placement Test in English*. To help evaluate these results, additional correlations were obtained from the *Purdue Placement Test* with the *L-Score* of the *A.C.E. Psychological Examination* and from the *Saint Xavier College Arithmetic Test* with the Q-Score of the *A.C.E. Psychological Examination*. The *Holzinger (1928) Form for Correlation Coefficient and Ratios* was used in this correlation work.

(The same evaluative procedure was carried out again for the 1949 and 1950 groups of students. In order that the three groups may be compared a complete summary of the test results is given in Table III.)

ITEM ANALYSIS

After the tests had been examined to determine the coefficient of correlation, each question in the *Saint Xavier College Examination in General Education* was subjected to an item analysis. Two coefficients, an index of difficulty and an index of discrimination, were computed for each item. The steps involved in the item analysis were the following:

1. The grouping of the papers into two divisions. (The upper group contained the papers above the median score, and the lower group contained the papers below the median score.)
2. The recording of each item for each student in the upper group as *right* or *wrong*.
3. The repetition of step 2 for the lower group.
4. The computation of the correct and incorrect

TABLE III

COMPARISON OF THE CORRELATION COEFFICIENTS AND RATIOS DERIVED FROM THE *Saint Xavier College Examination in General Education*
Given to Freshmen in 1948, 1949, 1950

Correlation Between:	Coefficient (r)			Mean			Standard Deviations in Intervals and Scores			Value of η_{xy}			Value of η_{zy}			Standard Error of Correlation Coefficients		
	1948	1949	1950	1948	1949	1950	1948	1949	1950	1948	1949	1950	1948	1949	1950	1948	1949	1950
Exam. in General Education	.508	.555	.497	38.0	42.27	38.19	10.99	8.92	9.32	.619	.648	.558	.590	.614	.585	±.078	±.080	±.091
and Total A.C.E. Psych. Exam.				107.8	108.82	111.64	22.64	21.64	20.06									
Exam. in General Education	.379	.513	.567	38.24	42.24	38.15	9.25	9.16	20.16	.528	.587	.615	.463	.611	.618	±.091	±.085	±.082
and L-Scores of A.C.E. Psych. Exam.				66.86	66.87	65.68	14.40	14.14	33.05									
Exam. in General Education	.546	.305	.369	38.68	42.24	38.15	9.18	9.16	20.56	.510	.470	.446	.589	.428	.566	±.074	±.105	±.105
and Reading Part of Purdue				13.11	14.81	13.85	4.23	4.47	10.12									
Exam. in Communication Part of Gen. Ed.	.457	.625	.250	51.15	65.21	52.5	16.67	14.15	16.38	.555	.722	.458	.560	.741	.559	±.083	±.070	±.114
and Total A.C.E. Psych. Exam.				107.75	108.82	111.14	23.40	21.59	19.55									
Exam. in Communication Part of Gen. Ed.	.496	.632	.379	51.4	65.23	52.5	16.29	13.98	16.39	.546	.726	.612	.592	.712	.585	±.083	±.069	±.104
and L-Score of A.C.E. Psych. Exam.				66.9	66.87	65.75	14.47	14.52	12.77									
Total Purdue	.720	.735	.680	143.5	141.5	150.59	26.36	26.59	28.82	.751	.803	.710	.762	.790	.795	±.050	±.053	±.065
and L-Score of A.C.E. Psych. Exam.				66.8	66.89	65.75	14.95	14.54	13.78									
S.X.C. Arithmetic Test (1948 ed.)	.605	.592	.401	62.92	63.81	67.5	22.75	23.15	18.54	.636	.653	.476	.641	.654	.689	±.066	±.075	±.102
and "Q" Psych.				42.2	41.63	46.05	11.40	10.04	13.50									

TABLE IV

A COMPARISON OF THE CORRELATION COEFFICIENTS DERIVED FROM ITEM ANALYSIS DATA OF THE SOCIAL SCIENCE QUESTIONS IN THE *Examination in General Education*
Given to the Freshman Classes—1948, 1949, 1950
and to the
Sophomore Classes—1950, 1951

Social Science Part I							Social Science Part II		
Question	Item	Coefficient (*r*)					Question	Item	Coefficient (*r*)
		Freshman			Sophomore				Freshman
		1948	1949	1950	1950	1951			1950
I	1.	0.0	−.02	.63	0.30	0.65	I	1.	0.26
	2.	0.45	.39	.72	0.75	0.54		2.	0.51
	3.	0.30	.61	.74	0.93	−0.00		3.	0.63
	4.	0.27	.48	.78	0.30	0.00		4.	0.68
II	1.	0.0	.40	.14	0.50	−0.00	IIA	1.	0.68
	2.	0.30	0.00	.27	0.27	0.74		2.	0.30
	3.	0.15	.68	0.0	0.73	−0.00		3.	0.45
	4.	0.34	0.00	.32	−0.62	−0.12		4.	0.52
	5.	0.50	.05	.35	−0.63	−0.03		5.	0.43
	6.	0.24	−.02	.45	−0.62	0.73		6.	0.60
	7.	0.40	.25	.08	0.10	0.35	IIB	1.	0.64
	8.	0.00	.25	.20	0.86	0.40		2.	0.67
	9.	0.27	−.05	.45	0.10	0.03		3.	0.67
	10.	0.04	.20	.27	0.41	−0.27	III	1.	0.30
	11.	−0.04	−.05	.44	0.31	−0.05		2.	0.47
	12.	−0.06	.20	.26	−0.05	0.25		3.	0.00
	13.	0.48	.30	.47	0.75	0.26		4.	0.30
	14.	0.08	.28	.41	−0.22	0.02		5. a	0.00
								b	0.00
								c	0.00
								d	0.00
								e	0.00

responses expressed in percent for each item by the two groups.

5. The summarizing of these computations in percent for each item by both groups.
6. The reading of the correlation coefficient from the *ABAC Chart for Estimating Discrimination.*[1]

The following example, illustrating steps 4 and 5 above, is based upon Item 7, Question II of the *Saint Xavier College Examination in General Education*, 1948 Edition.

Example:	*Failure on Item*	*Success on Item*
Above Median Group	24.4%	75.6%
		$r = .45$
Below Median Group	51.5%	48.5%

The index of discrimination was found for each item of the *Examination in General Education, Part I*, derived from the 1948, 1949, and 1950 freshman test results; for the 1950, 1951 sophomore restudies; and for the *Examination in General Education, Part II*, 1950, freshman test results. The data collected on the social science questions appear in Table IV. Rotation judgments of test results on Question I and Question II were made to determine whether either of them could be improved. The conclusions arrived at are shown below.

[1] *ABAC Chart for Estimating Item Discrimination*, prepared by the Board of Examinations of the University of Chicago.

TENTATIVE JUDGMENTS OF TEST RESULTS ON QUESTIONS I AND II IN THE SOCIAL SCIENCE SECTION OF THE *Saint Xavier College Examination in General Education*

As a result of the analysis of Question I, it was decided that no change should be made in that question since the results indicated a considerable degree of growth in critical thinking on a social problem between the time of entrance and the end of the sophomore year. Only a relatively small number of freshmen, most of whom were from the above median group, were able to solve the problem even partially at entrance. Two years later the majority of the entire group were able to make the correct judgment.

Because of marked absence of agreement in the coefficients of correlation for items in Question II, it was carefully studied. The following suggestions for improving the question were made:

1. Clarify each of the fourteen items in Question II in order to reduce possible ambiguity.
2. Improve the format of Question II in order to have the table opposite those items based on the table.

The item analysis of the questions in the Social Science section resulted in a divisional study of the questions as related to objectives of the course. Agreement was reached that greater emphasis should be placed throughout the course upon interpretation of graphical and tabulated data of a sociological nature.

Analysis similar to this given for the Social Science questions in the *Examination in General Education* was made for all of the questions in the examination.

Watson-Glaser Tests of Critical Thinking

An effort was made to ascertain the *validity* of the *Saint Xavier College Examination in General Education*. Since the validity of a test is often determined through correlation with another test which is commonly accepted as a device for measuring the capacity in question, a search was made for tests of critical thinking. The only one found was the *Watson-Glaser Tests of Critical Thinking* published by the World Book Company. However, the authors of these tests state in the *Manual of Directions* (p. 3) that their reliability coefficients were only tentative, and that validity had been based upon the opinion of "fifteen persons selected on the basis of their training in logic and the scientific method, their fair-mindedness, and superior intelligence."

A small selected group composed of eight students who were exempt either from part or all of the communication courses was given the Watson-Glaser Tests. The scores obtained on the test were correlated with the scores obtained by these eight students in the *Saint Xavier College Examination in General Education* and the *A.C.E. Psychological Examination*. Table V is a summary of the correlations. The negative correlation result might indicate that either the *Examination in General Education* or the *Watson-Glaser Test* does not measure critical thinking. The rather high correlation coefficient between the *A.C.E. Psychological* and the *Examination in General Education* seems to indicate that the latter is measuring more of what the *A.C.E. Psychological* measures than what the *Watson-Glaser Test* measures.

Retest on Physical Science Questions of the General Education Examination

A retest on the three Physical Science questions (III, VII, and XV) of the *Examination in General Education* was made at the close of the second quarter (March, 1949). All of the stu-

TABLE V

CORRELATION COEFFICIENTS OBTAINED FROM SCORES ON *Examination in General Education, Watson-Glaser Tests,* AND *A.C.E. Psychological Examination*

Student Identification Number	Relative Rank Accord. to ACE Psychol. Score	Rank Accord. to Watson-Glaser	Rank Accord. to General Education Score	Relation between Watson-Gl. and Gen. Education D	D^2	Relation between Psychol. and Gen. Education D	D^2	Relation between Psychol. and and Watson-Glaser D	D^2
55	1	3	1	2	4	.0	0	−2	4
16	2	7	2	5	25	0	0	−5	25
79	3	1	8	−7	49	−5	25	2	4
25	4	4	3	1	1	1	1	0	0
3	5	6	4	2	4	1	1	−1	1
18	6	5	6	−1	1	0	0	1	1
13	7	2	7	−5	25	0	0	5	25
62	8	8	5	3	9	3	9	0	0
				13	118	5	36	8	60

Method	Coefficient Watson-Glaser and General Education	Coefficient Psychological and General Education	Coefficient Psychological and Watson-Glaser
Rank difference	−0.416	0.598	0.303
Method of Gains	−0.384	0.763	0.399

dents whose tests are reported in this section were freshmen who took the *Examination in General Education* at the time of entrance (September, 1948). At the time of the retest the liberal arts students,[1] comprising 62 percent of the class, had just completed the physical science course. The four-year nursing students, comprising 38 percent of the class, took the retest at this time. Although they had not had the physical science course, they had just completed two quarters of general chemistry.

Tables VI, VII, and VIII summarize the data for each member of the three classes, two classes in physical science and one in general chemistry. The students are arranged in descending order of rank based on the national percentile rank according to the *A.C.E. Psychological Examination.* That the largest percent of gain was made by the mid-group in each class probably means that the instruction is directed to this level, and that the better students are not challenged enough, while the poorest students have material that is somewhat above their ability.

Question III of the general education examination dealt with the application of a principle of equilibrium to a chemical situation. It is doubtful whether these students at entrance had had much experience (some perhaps none) with problems of this type. Although the liberal arts students had a higher average score (about 6 percent) at entrance than the nursing students, the latter group which had taken chemistry but not physical science, had a slightly higher average score (about 2 percent) on the retest. The particular

[1] Note: The term "liberal arts student" is used merely as a term of distinction between the students in the nursing curriculum and all other students. Actually, the students in the collegiate nursing program receive a liberal arts background.

TABLE VI

SUMMARY OF RETEST STUDY MADE OF SCORES OF NINETEEN STUDENTS IN SECTION I ON PHYSICAL SCIENCE QUESTIONS OF *Examination in General Education* MADE AT THE END OF THE COURSE IN PHYSICAL SCIENCE (MARCH, 1949)

Student Identification Number	Total Points Score and Rank on Physical Science Questions				D	D^2
	Entrance Score	Entrance Rank	Retest Score	Retest Rank		
16	117	6	300	2.5	3.5	12.25
59	50	14	83	19.0	−5.0	25.00
65	83	8.5	117	18.0	−9.5	90.25
66	142	4	208	9.5	−5.5	30.25
37	75	11.5	200	2.5	9.0	81.00
34	83	8.5	200	12.0	−3.5	12.25
25	75	11.5	133	17.0	−5.5	30.25
3	75	11.5	217	7.5	4.0	16.00
63	33	15.5	275	5.0	10.5	121.25
53	108	7.0	300	2.5	4.5	20.25
72	75	11.5	183	14.0	−2.5	6.25
13	0	18.5	300	2.5	16.0	256.00
75	25	17.0	167	15.0	2.0	4.00
17	133	5.0	200	12.0	−7.0	49.00
70	150	3.0	267	6.0	−3.0	9.00
36	0	18.5	142	16.0	2.5	6.25
45	167	2.0	208	9.5	−7.5	56.25
7	175	1.0	217	7.5	−6.5	42.25
57	33	15.5	200	12.0	3.5	12.25

Note: Rank Difference Method: $r = .24$
Method of Gains: $r = .14$
Product Moment Method: $r = .16$

situation in this question had not been used in either the physical science or the general chemistry courses.

Question VII of the general education examination required the ability to think in terms of graphical symbolism and to interpret data in a problem in astronomy. At entrance the liberal arts students had an average score on this question of 48 percent and the nursing students had 41 percent. On the retest the average score of the liberal arts students was 85 percent and the nursing group 71 percent, an increase of 37 percent and 30 percent respectively. The liberal arts students who had taken the physical science course had an advantage since required supplementary reading in astronomy should have given them some background, although the particular problem was not discussed.

Question XV of the general education examination required the ability to interpret a diagram and to draw a conclusion from data given. This problem, which was also taken from the area of astronomy, was not a subject of study in the physical science course although here, again, the liberal arts students had an advantage. The average scores at entrance were 1.2 percent and 0 percent for the liberal arts and the nursing students respectively. On the retest the average scores were in the same order, 56.6 percent and 12.5 percent. This last question requires greater ability to do critical thinking than the two previous questions; and the small increase in the average score

TABLE VII

SUMMARY OF RETEST STUDY MADE OF TWENTY STUDENTS (SECTION II) ON PHYSICAL SCIENCE QUESTIONS OF *Examination in General Education* AT THE END OF THE COURSE IN PHYSICAL SCIENCE, MARCH, 1949

Student Identification Number	Total Point Scored and Rank on Physical Science Questions				D	D^2
	Entrance Score	Entrance Rank	Retest Score	Retest Rank		
58	117	3	267	3.5	−0.5	0.25
85	58	10.5	83	19	−8.5	72.25
34	75	8	300	1	7	49.00
32	50	14.5	175	14	0.5	0.25
42	108	4.5	192	13	−8.5	72.25
48	50	14.5	233	6.5	8.0	64.00
62	0	19.5	275	2	17.5	306.25
86	175	1	142	17	−16.0	256.00
91	108	4.5	267	3.5	1.0	1.00
47	50	14.5	233	6.5	8.0	64.00
39	58	10.5	242	5	5.5	30.25
68	0	19.5	167	15	4.5	20.25
61	50	14.5	150	16	−1.5	2.25
10	75	8	200	11.5	−3.5	12.25
29	125	2	225	8.5	−6.5	42.25
76	50	14.5	75	20	−5.5	30.25
82	50	14.5	108	18	−3.5	12.25
23	25	18	200	11.5	6.5	42.25
9	92	6	208	10	−4.0	16.00
54	75	8	225	8.5	−0.5	0.25

Note: Rank Difference Method: $r = .209$
Method of Gains: $r = .209$

of the nursing group, who during the two-quarter interim had had no experience at all in the area of astronomy, might be interpreted as a slight improvement in the ability to do critical thinking by a few.

It was hoped that some indication of the *reliability* of the physical science questions of the general education examination could be obtained by determing the reliability coefficient of correlation between the two sets of scores (entrance and retest). This correlation coefficient was calculated by the "Rank Difference Method"[1] and the "Method of Gains"[2] rather than from the "Product Moment Method," since the number of students in each case was relatively small. The correlation coefficient for these groups was very low, varying from less than .10 to .21. Statistically, this would seem to indicate that we are not measuring what is purported to be measured; viz., effective methods of thinking. Of course, three questions are too small a number for a valid conclusion. Also, the correlation coefficient would not be high unless the students developed at about the same rate so that they retain their respective ranks in both tests.

A similar retest study was made by the communication staff and reported to the North Central Study Committee.

[1] H. E. Garrett, *Statistics in Psychology and Education*. New York: Longmans, Green and Co., 1926, pp. 190–95.
[2] *Ibid.*

TABLE VIII

SUMMARY OF RETEST STUDY MADE ON TWENTY-THREE NURSING STUDENTS ON PHYSICAL SCIENCE QUESTIONS OF *Examination in General Education* AT THE END OF TWO QUARTERS IN GENERAL CHEMISTRY, MARCH, 1949

Student Identification Number	Total Points Scored and Rank on Physical Science Questions				D	D^2
	Entrance Score	Entrance Rank	Retest Score	Retest Rank		
79	117	2	200	5.5	−3.5	12.25
38	108	3	175	8.5	−5.5	30.25
26	50	14.5	117	15.5	−1.0	1.00
21	100	4.5	133	13.5	−9.0	81.00
81	100	4.5	200	5.5	−1.0	1.00
15	92	6	83	20	−14.0	196.00
30	50	14.5	200	5.5	9.0	81.00
52	50	14.5	117	15.5	−1.0	1.00
2	175	1	108	18	−17.0	289.00
40	25	19	75	21.5	−2.5	6.25
33	50	14.5	250	1.5	13.0	169.00
56	75	10	133	13.5	−3.5	12.25
89	0	21.5	200	5.5	16.0	256.00
8	50	14.5	208	3	11.5	132.25
73	0	21.5	250	1.5	20.0	400.00
71	83	8	175	8.5	−0.5	0.25
64	58	11	75	21.5	10.5	110.25
74	50	14.5	150	11	3.5	12.25
67	0	21.5	108	18	−3.5	12.25
69	0	21.5	25	23	−1.5	2.25
46	33	18	108	18	0.0	0.00
14	83	8	150	11	−3.0	9.00
78	83	8	150	11	−3.0	9.00

Note: Rank Difference Method: $r = .021$
Method of Gains: $r = .089$.

DEVELOPMENT OF THE SAINT XAVIER COLLEGE EXAMINATION IN GENERAL EDUCATION, PART II

The committee agreed that a longer test in general education was necessary in order to secure a better judgment of freshman competencies in the various areas. In 1949–50 the *Examination in General Education* was increased two-fold, and some of the original questions were revised for greater effectiveness. The items were then rearranged to form two sections which were considered comparable in number and type of items and in degree of difficulty. They were to be administered in two periods of three hours each. The 1950 freshman class was the first to take the two parts of this examination. Two scores, one on each part, were given to each student. These scores on the two parts were correlated to give the reliability coefficient of the half-test, and by means of the *Spearman-Brown Formula*, the reliability coefficient for the whole test was calculated. These data appear in Table IX. An item analysis of each question in this examination was made. The analysis of the social science questions appears in Table III, page 398.

TABLE IX

SPLIT-TEST EVALUATION OF THE RELIABILITY COEFFICIENT OF THE PARTS AND WHOLE OF THE *Saint Xavier College Examination in General Education*

Correlation Between:	Reliability Coefficient of Half-Test	Reliability Coefficient of Whole Test	Mean	Std. Deviation Intervals & Score	ηxy	ηyx	Std. Error of Correl. Coefficient
Bio. Sci. Part I and Bio. Sci. Part II	.269	.423	38.12 54.12	23.53 18.14	.518	.361	.113
Comm. Part I and Comm. Part II	.462	.632	49.15 56.48	16.09 21.75	.564	.613	.097
Humanities Part I and Humanities Part II	.418	.579	35.89 27.08	11.66 13.08	.551	.501	.101
Phy. Sci. Part I and Phy. Sci. Part II	.243	.391	20.98 38.94	13.44 25.20	.333	.547	.114
Soci. Sci. Part I and Soci. Sci. Part II	.602	.751	30.19 30.19	10.40 12.60	.668	.766	.077
Gen. Educ. Av. Part I and Gen. Educ. Av. Part II	.553	.712	35.00 41.35	8.70 11.31	.657	.609	.084

Section B: An Evaluation of the General Education Program Through a Study of the 1948–50 and the 1949–51 Freshman-Sophomore Classes

The real purpose of the two test instruments, the *Saint Xavier College Examination in General Education* and the *Saint Xavier College Test of Reactions Involving Emotions*, was to provide tools to evaluate the general education program through a progress study of our students at the end of their sophomore year. In order that the students' development during the first two years in college might be measured, it was necessary to ascertain to what degree they had already achieved the objectives of the general education program before entering college. For this reason these same two tests were given to the students at the time of college entrance that a base line might be established from which to measure the change that had taken place during the first two college years. To date, evaluations of the sophomore classes of 1949–50 and 1950–51 have been made. The sophomore scores obtained in the *Examination in General Education* administered in May, 1950, and May, 1951, were correlated with those obtained by the same students in September, 1948, and September, 1949, respectively. Table X summarizes these data. Table XI summarizes the change in scores on the *Examination in General Education*.

A partial analysis of the results ob-

TABLE X

A COMPARISON OF THE CORRELATION COEFFICIENTS AND RATIOS FROM THE 1950 AND 1951 SOPHOMORE STUDIES

Tests	Corr. Coef.		Stan. Error Cor. Coef.		Mean		Std. Deviation		Val. of *xy*		Val. of *ys*	
	1948–1950	1949–1951	1948–1950	1949–1951	1948 and 1950	1949 and 1951	1948 and 1950	1949 and 1951	1948–1950	1949–1951	1948–1950	1949–1951
Ex. in Gen. Ed. Bio. Sci. Part	−.068	.485	.138	.126	49.0 65.89	45.52 60.47	16.68 18.90	22.23 18.14	.490	.597	.518	.841
Commun. Part	.430	.464	.113	.129	54.77 75.07	70.16 80.60	17.00 11.00	11.07 8.58	.489	.694	.594	.621
Human. Part	.068	.337	.138	.146	28.07 78.27	42.32 80.61	13.55 13.10	10.08 7.73	.388	.632	.419	.587
Phy. Sci. Part	.240	.376	.131	.141	30.01 57.7	25.6 53.76	16.65 24.43	16.04 18.55	.530	.473	.473	.521
Soc. Sci. Part	.439	.187	.112	.159	44.75 69.37	40.52 71.78	13.83 12.77	8.80 14.4	.561	.314	.567	.633
Ex. in Gen. Ed. Average	.392	.519	.117	.120	40.54 69.30	44.55 70.64	9.08 9.56	7.74 7.11	.558	.652	.557	.687

tained from the second instrument, the *Saint Xavier College Test of Reactions Involving Emotions*, is found in Tables XIV and XV.

COMMENTS ON CHANGES MADE IN SCORES ON *Saint Xavier College Examination in General Education* RECEIVED AT ENTRANCE AND AT THE END OF THE SOPHOMORE YEAR

Communication

In Communication, the average gain for each sophomore student was 17.7 percent in 1950, and 10.3 percent in 1951. In 1950, approximately 11 percent of the sophomores received lower scores than those they had received at entrance in September, 1948. In the 1951 retest, approximately 5.5 percent of the sophomores had scores lower than those achieved in 1949. One score was unchanged in the 1951 retest. The course in communication is completed one year previous to the sophomore retest.

In 1948, 6 percent of the freshmen were excused from one or both of the courses in Communication. Approximately 33⅓ percent of the students excused received the same or lower grades in the 1950 retest. In 1949, 25 percent of the freshmen were excused from both *Communication 101* and *102*. These students took *Writing for Publication*, a course which now runs through two semesters and which at the time carried six hours of credit. None of the excused students were among the 5.5 percent of the sophomores who received lower scores in 1951 than those they had achieved at the time of entrance in 1949.

The number of sophomore students receiving lower scores in 1950 was reduced 50 percent in 1951; but the average gain for sophomores was 7.4 percent less in 1951 than that in 1950. The fact that 25 percent of the 1949 and only 6 percent of the 1948 freshmen had already completed at entrance most of the requirements of the Com-

TABLE XI

SUMMARY OF THE CHANGES IN THE RESULTS OF THE FRESHMAN-SOPHOMORE STUDY OF 1948–50 AND OF THE FRESHMAN-SOPHOMORE STUDY OF 1949–51 BASED ON THE *Examination in General Education, 1948 Edition*

Tests	Scores in percent 1948–1950					Scores in percent 1949–1951				
	Range Pct.		Aver. Score		Percent of change 1950	Range Pct.		Aver. Score		Percent of change 1951
	1948 Fresh.	1950 Soph.	1948 Fresh.	1950 Soph.		1949 Fresh.	1951 Soph.	1949 Fresh.	1951 Soph.	
Ex. in Gen. Ed. Bio. Sci. Part	0–78	24–100	48.1	65.6	36.2	4–97	25–89	44.2	60.8	37.6
Commun. Part	24–88	35–94	54.8	72.5	32.2	45–88	49–95	69.9	80.3	14.8
Human. Part	0–63	37–96	26.6	77.6	191.7	21–68	64–98	41.7	86.0	106.2
Phy. Sci. Part	0–60	18–100	27.3	56.6	107.3	0–61	7–93	25.0	52.7	110.8
Soc. Sci. Part	11–68	41–100	44.4	68.5	54.2	11–54	22–89	40.2	71.4	77.6
Aver. of Part. Scores of *Ex. in Gen. Ed.*	24–63	48–89	40.4	69.0	70.8	31–61	50–81	44.3	69.2	56.2

munication course might have been a factor in the lower percent of average gain of the 1951 sophomore students. In the 1948 freshman group the scores, in percent, range from 24 to 88; in 1949, from 45 to 88 (see Table XI). According to these statistics, a greater number of the 1948 freshmen began with less of what was being tested than did the freshmen of 1949. That the 1949 group had less to gain than the 1948 students might have contributed to the decrease in the percent of the average gain of the 1951 sophomores.

Biological Science

The 1950 sophomore test showed an average gain of 17.5 percent for each student in biological science. There were 30.7 percent of the students who received scores below those achieved on the 1948 entrance test. Half of this group were nursing students who had not taken the general course in biological science but had taken one course each in general zoology, microbiology, general physiology, and human anatomy. The liberal arts students who received lower scores had taken no courses in biology. The decrease in scores ranged from 2 to 36 percent. The biological science course is completed a year prior to the sophomore test. The average gain for each student in the 1949–51 Freshman-Sophomore Study in Biological Science was 16.6 percent. Sixteen and two-tenths percent of this sophomore class received lower scores than they did at the time of college entrance; 8 percent received the same score.

Humanities

Only one student in Humanities received a lower score in May, 1950, than in September, 1948. The decrease in this case was 3 percent. The average increase for each student in the Freshman-Sophomore Study, 1948–50, was 51 percent. This increase, which is considerably higher than that of the other courses, might be accounted for in part by the fact that all of the students took the general course in Humanities during both semesters of the Sophomore year, and were completing the course at the time the *Examination in General Education* was given to the sophomore group. The average increase for each student at the Freshman-Sophomore Study, 1949–51, was 44.3 percent. All of the sophomore students received a higher score in 1951 than they did at the time of entrance in September, 1949.

Physical Science

In physical science, the average sophomore gain for each student was 29.4 percent in 1950 and 27.7 percent in 1951. In 1950, 7.7 percent of the students received a slightly lower score as sophomores than as freshmen (range of decrease was 1 to 3 percent), while 5.7 percent received a considerably lower score (range of decrease was 18 to 41 percent). One-half of the former group and one-third of the latter group were nursing students. The nursing students do not take the physical science part of the General Education Program; instead, they take ten semester hours of chemistry, five in general and five in organic. These chemistry courses are taken during the freshman year. In 1951, one student received a lower score as a sophomore than as an entering freshman. However, both scores were very low. The physical science course is completed fifteen months previous to the administration of the sophomore testing program.

Social Science

The average change for each student in the 1948–50 Freshman-Sophomore Social Science Study was an increase of 24.1 percent. Seven and seven-tenths percent of the students received lower grades in May, 1950, than at the time of entrance in September, 1948. The decrease ranged from 1 to 7 percent. All of the students took the general course in the social sciences. The course had been completed one year prior to the sophomore retest. In the Freshman-Sophomore Study, 1949–51, the average change for each student was a gain of 31.2 percent. Five and four-tenths percent of the students received lower scores in May, 1951, than they did at the time of entrance, September, 1949. The decrease ranged from 6 to 13 percent. All of these students were completing the social science course at the time of the retest.

General Education Average

The General Education Average score represents the average of the scores received in communication, social science, physical science, biological science and humanities. The 1950 sophomores showed an average gain per student of 24.6 percent in the General Education Average over the entrance score; the gain per student for the 1951 sophomores was 24.9 percent.

A COMPARATIVE STUDY OF THE CLASS RANKS OF FRESHMAN-SOPHOMORE STUDENTS 1948–50; 1949–51

A comparative study of the class ranks of freshman and sophomore students of 1948–50 and 1949–51, respectively, was based on data derived from the following tests:

1. *A.C.E. Psychological Examination*, 1948 and 1949 Editions respectively (administered at time of college entrance, September 1948; September 1949).
2. *General Education Examination*, 1948 Edition (administered at the time of college entrance, Sept. 1948; Sept. 1949).
3. *Saint Xavier College Examination in General Education*, 1948 Edition (administered in May, 1950 and May, 1951).
4. Average of Academic Grades for the Freshman-Sophomore Years, 1948–50, respectively; and 1949–51, respectively.

Consistency in academic rank based upon the data mentioned above was determined. Approximately 59 percent of the freshman and sophomore cases of 1948–50 showed consistency in class rank in all four examinations; 66 percent of the freshman and sophomore cases of 1949–51 were also consistent. Special interest was attached to the comparison of the class rank based on the *Saint Xavier College Examination in General Education* at the end of the sophomore year with the class rank of the freshman and sophomore grade-point average. Sixty-two percent of the freshman and sophomore cases of 1948–50 showed consistency in rank; 89 percent of the 1949–51 cases were consistent.

TABLE XII

CLASS RANKS OF FIVE FRESHMAN-SOPHOMORE STUDENTS, 1948–50

Student Identification	A.C.E. Psych. Exam. Rank Sept., 1948	Gen. Educ. Av. Rank Sept., 1948	Gen. Educ. Av. Rank May, 1950	Grade-Point Av. Rank Freshman-Sophomore Yrs. 1948–50
3	12	16	9	15
16	3	2	8	3
52	22	21	25	22
62	37	13	27	9
70	22	8	15	38

Students 3, 16, and 52 in Table XII show consistency in rank based on the criteria above. Students 62 and 70 show inconsistency in rank based on the same criteria.

TABLE XIII

CLASS RANKS OF FIVE FRESHMAN-SOPHOMORE STUDENTS, 1949–51

Student Identification	A.C.E. Psych. Exam. Rank Sept., 1949	Gen. Educ. Av. Rank Sept., 1949	Gen. Educ. Av. Rank May, 1951	Grade-Point Av. Rank Freshman-Sophomore Yrs. 1949–51
21	19	19	24	20
39	34	31	32	32
64	28	25	31	24
10	23	19	2	3
22	23	23	34	4

Students 21, 39, and 64 in Table XIII show consistency in rank based on the criteria above. Students 10 and 22 in Table XIII show inconsistency in rank based on the same criteria.

Table XII shows the class ranks of five students drawn from the freshman-sophomore group, 1948–50. Table XIII gives the class ranks of five students chosen from the Freshman-Sophomore group, 1949–51. In each table three examples show consistency in rank; two show inconsistency.

Tentative Evaluation of Attitudes, Appreciations, Sensitivities, Interests, and Habits by Means of the Saint Xavier College Test of Reactions Involving Emotions

The instrument, the *Saint Xavier College Test of Reactions Involving Emotions*, contained items intended to measure interests, appreciations, sensitivities, habits, and attitudes.

The items of the test have been catalogued below under interests, appreciations, sensitivities, habits, and attitudes.

I. Interests in
  A. Academic subjects.
  B. Leisure time activities.
    1. Places to visit.
    2. Reading of magazines.
  C. Diversified experiences.

II. Appreciations.
  A. Painting.
  B. Sculpture.

III. Sensitivites to:
  A. Social experiences.
  B. Aesthetic experiences.
    1. Music.
    2. Art.

IV. Habits of:
  A. Health and personal hygiene.
  B. Confidence in God.
  C. Indecision.

V. Attitudes.
  A. Scientific attitudes.
    1. Open-mindedness.

2. Critical mindedness.
3. Intellectual honesty.
4. Habit of looking for causes.
5. Sensitivity to problems.

B. Attitudes of responsibility.
1. Social.
2. Religious.
3. Moral.
4. Personal.

No attempt will be made here to give a complete analysis of the fifty-two items comprising the test, but a few general statements will be made. The student was directed not to sign her name to this test, since it was believed that the responses would reveal more exactly the emotions, especially attitudes, if the test remained anonymous.

An improvement in social responsibility toward minority groups was indicated in the sophomore tests.

TABLE XIV
(ITEM XLIII)
CHANGES IN INTEREST IN LEISURE TIME ACTIVITIES (MAGAZINE READING) OBSERVED IN THE 1950 AND 1951 SOPHOMORE CLASSES

Magazines	1950 Sophomores									
	Choice According to Percent								% Rating Mag. below 4th ch.	
	First		Second		Third		Fourth			
	1948 (Fresh)	1950 (Soph)	1948 (Fresh)	1950 (Soph)	1948 (Fresh)	1950 (Soph)	1948 (Fresh)	1950 (Soph)	1948 (Fresh)	1950 (Soph)
Reader's Digest	36.3	28.9	24.2	16.3	19.4	16.7	14.5	8.5	4.8	29.6
Life	29.1	24.9	21.8	14.3	19.4	16.7	15.7	21.3	13.3	22.8
Sat. Eve. Post	12.1	5.9	23.0	14.3	25.4	14.5	16.9	14.9	19.4	50.3
Ladies' Home Jour.	16.4	3.8	16.4	10.2	17.6	16.7	23.9	14.9	25.2	54.4
American	10.4	15.4	3.0	18.4	7.5	12.5	3.0	10.6	10.4	43.1
Red Book	3.1	3.8	7.7	2.1	3.1	8.2	10.7	6.4	89.3	80.4
Atlantic Monthly	1.6	15.4	6.5	8.2	0.0	4.2	4.9	10.6	86.4	61.6
Commonweal	0.0	1.9	8.2	16.3	6.5	10.4	4.9	12.8	79.9	58.6
Pic	0.0	0.0	0.0	0.0	1.8	0.0	3.5	0.0	94.8	100.0

Magazines	1951 Sophomores									
	Choice According to Percent								% Rating Mag. below 4th ch.	
	First		Second		Third		Fourth			
	1949 (Fresh)	1951 (Soph)	1949 (Fresh)	1951 (Soph)	1949 (Fresh)	1951 (Soph)	1949 (Fresh)	1951 (Soph)	1949 (Fresh)	1951 (Soph)
Reader's Digest	40.0	34.2	21.3	10.5	9.3	21.1	8.0	7.9	21.2	26.3
Life	17.7	26.3	21.3	18.4	14.6	21.1	13.3	7.9	33.3	26.2
Sat. Eve. Post	17.3	5.3	20.0	15.8	16.0	7.9	20.0	26.3	26.6	44.7
Ladies' Home Jour.	6.6	2.6	13.2	10.5	29.3	15.8	13.2	7.9	37.0	63.2
American	5.3	13.2	4.0	21.1	8.0	7.9	12.0	13.2	73.3	60.5
Red Book	4.0	22.6	6.6	2.6	4.0	2.6	4.0	5.3	81.3	86.9
Atlantic Monthly	2.6	5.3	1.3	10.5	4.0	7.9	12.0	7.9	82.6	68.4
Commonweal	2.6	10.5	9.3	10.5	5.3	15.8	8.0	18.4	81.2	44.7
Pic	0.0	0.0	1.3	0.0	2.6	0.0	4.0	2.6	92.0	97.4

TABLE XV

CHANGES IN ATTITUDES OF SOCIAL RESPONSIBILITY IN THE AREA OF COMMUNITY HEALTH DURING FRESHMAN-SOPHOMORE YEARS, 1948–50 AND 1949–50

Issues and Attitudes	1948 (Fresh.)	1950 (Soph.)	1949 (Fresh.)	1951 (Soph.)
Right to refuse child school entrance before vaccination for smallpox.				
Agreed	57.9	65.2	62.5	65.8
Disagreed	26.1	4.1	28.4	15.8
Uncertain	15.9	30.7	9.1	18.4
Right to separate child from parent with open case of tuberculosis.				
Agreed	62.5	65.4	55.9	73.7
Disagreed	28.4	18.4	28.1	10.5
Uncertain	9.1	16.5	15.9	15.8
Right to quarantine for communicable disease.				
Agreed	92.0	98.1	90.0	97.4
Disagreed	5.6	1.9	7.7	2.6
Uncertain	2.2	0.0	2.3	0.0
Right to require test for syphilis before marriage.				
Agreed	92.1	100.0	94.1	97.4
Disagreed	4.5	0.0	4.5	0.0
Uncertain	3.4	0.0	1.4	2.6
Right to require silver nitrate for newborn babies' eyes.				
Agreed	55.7	75.3	55.9	71.0
Disagreed	33.0	25.0	32.8	5.3
Uncertain	11.4	0.0	11.4	23.7

However, no direct evidence can be cited to show that this changed attitude was carried into the students' daily lives.

That the students' gullibility decreased was evidenced by an improvement in their ability to criticize advertisements. The fact that the students were two years older at the time of the retest might account for some of this change.

Two years of college did not change essentially the academic interests of the two classes studied. The subjects that the students ranked highest both at entrance and at the end of the sophomore year were mathematics, chemistry, literature, biology, and history. Data indicated that the interest in foreign languages remained rather low.

The data on two specific items are included in this report. (See Tables XIV and XV.) One item is concerned with interest in leisure time activities and the other with social responsibility in the area of community health.

Item XLIII was intended to determine the reading *interest* in a number of magazines. The two classes as sophomores showed an increased reading interest in *American*, *Atlantic Monthly*, and *Commonweal*, though the *Reader's Digest* and *Life* were still their first and second choices respectively.

From the sophomore responses to community health, there was in each case an increase over the freshman responses in the number of students who agreed that certain state rights have authoritative dominance over individual rights. The percent of "uncertainty" increased in several instances.

CONCLUSIONS

What conclusions is it possible to draw after three years' effort to evaluate our test instruments and the progress made by our students as a result of the revised general education program? What effect has the study had upon our program as a whole? What effect has it had upon our faculty? What are some of the steps which lie ahead?

Any program must be evaluated in the same terms in which it has been defined. Since an attempt has been made to develop our general education program on the basis of behavioral objectives[1] then it must be evaluated in terms of behavioral objectives. This task is much more difficult than to evaluate a program defined in terms of content objectives only. An evaluation based on behavioral objectives demands more than the measurement of the acquisition of knowledge and the development of mental processes. A complete evaluation would have to include a careful study of the attitudes, the motives, and the drives, which, after all, are important determinants of action. The fact that these are hidden, sometimes even from the students themselves, makes the problem that much more difficult.

So far only a very small beginning has been made in the evaluation of our program. The assumption has been made that a person is *more apt* to act in a manner expected of an educated person if his training has sought to develop (1) understanding of basic principles and values and (2) abilities to do critical thinking. To define problems, to gather data, to apply principles, and to draw conclusions, etc. are some of these abilities. (See page 386 for a more complete listing.)

[1] The term *behavioral objectives* is used in the sense of objectives which are two dimensional, involving both content and expected behavior.

The fact that a person is in full possession of these desirable understandings and abilities is no assurance that he will act in real life issues in accordance with them. It is the desirable behavior, however, that is the ultimate criterion of the effectiveness of any program. A thorough evaluation would have to encompass, therefore, the whole life span. How much success or failure can be attributed to any college program is problematic. To evaluate properly a program based on behavioral objectives is probably well nigh impossible; yet "fools rush in where angels fear to tread."

Attempts to Standardize the Test Instruments

Our evaluation has not gone beyond the pencil-paper stage. So far it has sought to determine if (1) the instrument *Examination in General Education* is capable of measuring critical thinking and the extent to which our students have progressed in that ability; and (2) if the instrument *Test of Reactions Involving Emotions* is capable of measuring attitudes, appreciations, habits, and interests and our students' growth in these areas as a result of our general education program.

To determine if the first test instrument was capable of measuring critical thinking, data were obtained from item analyses and from correlation studies for reliability and validity coefficients.

In the study on item analysis, it was assumed that if the correlation coefficient was .20 or better that the item had discriminatory value. Correlation coefficients for the items in *Examination in General Education* were determined from the entrance and sophomore scores for two classes. Over six hundred of these correlations were made. With some items, the correlation

coefficient indicated that the item had good discriminatory value at both levels and with both classes; other items showed such value at the entrance level but not at the sophomore level. With other items, there was no general agreement. Some items appeared to possess discriminatory value with one class but not with the other; at one level with one class and at another level with the other. It appears, then, that a test item can have discriminatory value at one level and not at another; with one class and not with another. While the item analysis is a technique found to be helpful in writing examination items, it is believed that too much emphasis should not be placed on the numerical value of the correlation coefficient.

So far only a limited amount of data has been accumulated that can be used to determine the reliability and the validity of the test instrument. To date one opportunity has presented itself—by means of the split-test technique—to establish its reliability. The results show quite a variation for the different parts of the test. The reliability correlation coefficient for the test as a whole was .712. This evidence, based only on the split-test, is not considered sufficient for establishing the reliability factor. We have been handicapped in our attempts to establish the validity of this test instrument by the fact that, as far as we could ascertain, there were no standardized tests of critical thinking available for correlation with our instrument. Our use of the *Watson-Glaser Tests* for this purpose has already been discussed.

It was not possible statistically to establish the reliability and validity of the second test instrument, *Test of Reactions Involving Emotions*. In the first place, the test items on the whole were not right or wrong in the same sense as those in the first instrument. The validity of the test had to be established, therefore, on the basis of the committee's judgment as to what constituted the best answer. Our purpose was to discover at the time of entrance the appreciations, attitudes, habits, interests, and sensitivities of the entering freshman class and then to measure the degree of progress made by the class at the end of the sophomore year. We would have liked to have had these results for each student but we decided to sacrifice them to anonymity in the belief that students would answer more honestly if they did not have to sign their names.

Measuring Student Growth

The statistics show that the average growth per student expressed in percent, as measured by the *Examination in General Education*, during the first two college years varied from 17 to 51 percent in the different areas; the statistics also show that from about 5 to 17 percent (with one exception, when it reached 30 percent) of the students received the same or lower scores at the end of the sophomore year than at college entrance.

Both sophomore studies showed that more students in the biological science than in the other areas received a lower score at the end of the sophomore year than as entering freshmen. In 1950 there were 30 percent of the students receiving lower scores as sophomores than as entering freshmen; and in 1951 there were 24.2 percent who did not better their scores. The course in the biological sciences was not a new course as were all of the others; it was a modified form of the previous survey course. Is this evidence that students tend to forget facts more quickly, if they are studied apart from application?

There are two questions that might

be asked: Does this average growth represent a substantial gain for a two-year college period? Why did not all the students improve their scores after two years in college? Undoubtedly several factors could enter into the answer to the latter question. Could one be, that in some cases the student has reached a plateau in her mental growth, and "taking courses" does not improve her ability to synthesize facts and make application? If the examination contains items requiring application of knowledge, it could well happen that no change in mental growth would be registered.

As we stated earlier the results obtained from the second instrument, *Test of Reactions Involving Emotions*, cannot be treated statistically as in the case of the first. Because of the anonymity of the test, as was explained, changes in the individual student cannot be followed. However, evidence of group growth in desirable attitudes was obtained. Better evidence of changes in attitudes, appreciations, interests, and habits probably could be obtained through anecdotal records which have not as yet been employed in our evaluation.

Evidence of Integration

One of our major concerns has been integration within the five areas of the general education program. Each of the general courses deals with problems peculiar to its field and each introduces the students to its own terminology and techniques. However, if our general education program represents a unified educational experience for all Saint Xavier College students, there should be no barriers between the broad fields of learning included in the general education curriculum.

The report indicates that there are certain evidences of integration within the program. We accept the theology-philosophy program as the "frame-of-reference" for the total Saint Xavier College curriculum, because it encompasses all of the disciplines that contribute to the broadening influences of the general education program. The extent to which it actually functions as an integrating factor varies with the areas of subject matter and with the individual instructors. Because Catholic theology and philosophy is organized and definite, the instructor in biology, for example, is conscious of definite theological and philosophical principles. So is the instructor in psychology, in sociology, actually in all of the areas although some lend themselves more easily to direct integration than do others. And while our faculty does have a strong unity in these basic tenets, the actual integration varies as has been said with the individuals and with the various areas of subject matter. A definite sign of awareness of this problem of integration is the fact that members of the faculty have voluntarily enrolled in the theology courses both during the school year and the summer session.

Certain instructional methods and techniques are also common integrating factors: (1) The purely lecture technique has been replaced to a great extent by one that provides for more student participation. (2) The general courses are based on the problem method approach. (3) The use of a set of common skills, abilities, and techniques helps the student develop "intellectual habits" which she can apply when she comes in contact with substantive problems.

To date there have been four formal programs of integration through subject matter. At the end of each academic year, beginning in 1948, a problem was selected that had facets in each of the general education areas. The communication staff, in coopera-

tion with the staffs in the physical, biological, and social sciences, directed the gathering of data, the writing of papers, the presentation of panel and round table discussions, and the development and administration of listening tests.

Within the last five years, most of the faculty have gained an intelligent appreciation of the general education program. They realize that the program is not an attempt to minimize specialization but rather is designed as a comprehensive foundation on which to build specialization.

An excellent example of integration within the general education program is the informal day-by-day effort on the part of most of the faculty to encourage the students to relate the knowledge gained in one general course to that acquired in the other general education areas. The students on the upper level, too, are frequently called upon to compare, to contrast, to appraise, and to apply their more specialized knowledge with that acquired in the general education program. This is proof to the student that there is a great unification within her total academic program, and she realizes that much intellectual stimulus can be gained from its broadening influences.

The frequent references, direct and indirect, to theology-philosophy as a "frame-of-reference" for the total program is a strong integrating factor. Because of it, the student envisions her education as that process which takes in the "whole aggregate of human life."

Plans for New Areas of Study

Since our program is not fixed, our task is not complete. The general education courses, by their very nature problematic, are subject to constant revision. The faculty recognizes that there is repeated need to improve evaluative devices and to develop additional devices for evaluation purposes. In order that the Study on General Education continue profitably, three committees have been appointed: a permanent standing committee on general education; a committee to make an alumnae study; and a committee assigned to investigate in detail the upper-level academic program.

The North Central Study Committee on Evaluation will be the "on-campus permanent standing committee." It is to be composed of the teaching personnel in the five general education areas, with the Dean and the assistant Dean *ex officio* members. In regular workshop committee meetings it will have the opportunity to discuss current materials, methods, and trends in general education. It will be the group best qualified to study the local problems in general education, such as the selection of material to be presented and analyzed in each of the general courses; new and improved methods of integration of course content; tests and testing programs; and evaluation of test results.

During each semester, a faculty seminar, with a member of the general education staff as chairman, will be a means of keeping the faculty as a whole informed of current trends in general education. Faculty members who do not teach in the general education program will be invited to those general education committee meetings that might be of interest to a particular group. The general education staff, however, will not confine itself to the limitations of in-service training but will be encouraged to continue its participation in off-campus studies, workshops, and meetings devoted to general education.

Under a group of faculty members, an alumnae study will be initiated to determine, as far as possible, how the

young women who have taken our general education program are adjusting to life situations and how effectively they are using their leisure time. As has been pointed out, our general education program cannot be judged adequately while our students are on campus. To measure how well they learned the lesson, that general education does not terminate at the end of the sophomore year or at the end of a senior year, will be the task of this committee. If as a result of this study, our alumnae seem to give evidence of habitually thinking, acting, and judging in the light of immediate and ultimate principles, it may be assumed that part of the credit reflects on the foundation which the general education program has afforded.

A natural outgrowth of our General Education Study has been the growing consciousness of a need to begin a study of the effectiveness of our divisional programs. A faculty committee appointed in September, 1951, has been given this responsibility. Its plans are only in the formative stage at this time. With the experience obtained during the past six years, however, the attack on this problem will probably be more direct than might otherwise have been expected. The committee proposes to analyze the present status of our divisional programs, explore new trends, and make recommendations for improvement.

We have already suggested throughout this report that we are merely explaining our progress up to this point. We are not yet certain that the test instruments which we have constructed to evaluate the progress of our students under the revised general education program are valid and reliable. We realize that the process of insight into the potentialities for integration within our program has barely begun. Since the beginning of the Study, the faculty as a whole has participated in a series of seminars designed to bring about an awareness of the integrating principles potential in the program. We believe that similar procedures to insure continuous in-service training of our faculty in this area are needed.

Large tasks lie ahead. The bringing of the upper-level program into line with our revised general education objectives is in itself a project that will require a great amount of time and effort. So will the study of our end product—the Alumnae. Probably the best we can say is that we are working at these problems. And, of course, we do not expect to see the day when we can rest content in the assurance that now our educational program is all that it should be and that we are doing everything that we can for our students.

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STATISTICAL INFORMATION CONCERNING SECONDARY SCHOOLS ACCREDITED BY THE ASSOCIATION FOR 1950–51

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IN THE TABLES which follow are presented data gleaned from the annual reports of member secondary schools for 1950–51, as summarized for the several states. The items included in the summary are drawn from Report Form A1, the annual report on Regulations. An analysis of findings in the two reports dealing with the Criteria—Report Form A2, a brief annual report on the five Criteria and Report Form A3, the Special Report on Criterion 2—would undoubtedly have been valuable in revealing trends in the qualitative aspects of school development in North Central territory. Unfortunately staff was not available for summary and analysis of these reports either in the offices of State Chairmen or by the Secretary of the Commission.[1]

The total number of member schools in 1950–51 shows an increase of 13. The actual increase is greater than that revealed in these totals, since the 1950 figures included 34 schools from Montana. Apparently the junior high school movement continues to develop since the number of schools organized on the 4 year basis shows a drop of 36 and those organized on a 6 year basis, a drop of 9. The number of 3 year schools has been increased by 31.

[1] The current summaries are limited in one other respect. While the summaries submitted by State Chairmen were organized to reveal the situation in the state for schools in four categories of size as well as for all schools of the state, only the figures for all schools are presented here. On account of publication costs, it has been necessary for the editor of the QUARTERLY to limit publication of the complete report of secondary schools to five year intervals. Complete data for 1949–50 were presented in the QUARTERLY for April, 1951. Comparable data for earlier years will be found in the various issues of the QUARTERLY (usually the January or April issue) or prior to 1926 in the annual *Proceedings* of the Association.

After a consistent decrease since 1948, the total enrollment is up by 18,143 since 1950, an increase greater than can be explained by the increase in membership in the Association. Increased enrollment is shown in grades 7, 9, 10, and 11, while grades 8 and 12 enroll fewer pupils than last year. While the decrease of number of pupils in the senior year is smaller than in 1950 or in 1951, it is still appreciable. The draft can scarcely explain this fact since pupils in high school are not drafted unless they have passed their twentieth birthday and draft boards, in general, have encouraged completion of high school graduation even for those eligible for the draft. It would seem appropriate for schools, generally, to make serious studies of holding power and to increase efforts to make high school graduation an attractive goal.

The average enrollment again shows a slight increase to 482.52. This may be, in part, a factor of increased enrollment but probably also reflects the movement toward reorganization of school districts.

It may be worth-while to point out that the number of new staff members exceeds that of teachers not returning by almost 2000; that the median pupil teacher ratio has been reduced from 19.8 in 1950 to 18.6; that the provision of librarians and the extent of preparation in library science show a healthy increase; that preparation of new staff members is, in general, more adequate than in 1950 (although there were still 444 new teachers without bachelor's degrees); and that there is an appreciable increase in the salary level.

Summary of the 1950–51 Annual Reports of All Secondary Schools

States	Number of Schools			School Organization				Enrollments in Grade 7 through Post-Graduate Work											
				Years Included				Grade 7			Grade 8			Grade 9			Grade 10		
	Public	Private	Total	Six	Four	Three	Other	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1. Arizona	47	0	47	3	38	3	3	108	96	204	115	107	222	3,229	3,318	6,547	3,441	3,605	7,046
2. Arkansas	85	4	89	45	27	14	3	1,922	1,940	3,862	2,824	1,881	3,705	3,718	2,797	5,515	4,146	4,549	8,695
3. Colorado	91	11	102	15	55	18	14	654	629	1,283	687	704	1,391	3,666	3,573	7,239	5,960	6,137	12,097
4. Illinois	391	97	488	8	460	15	5	268	252	520	268	273	541	40,098	42,631	82,729	38,351	39,122	77,473
5. Indiana	162	8	170	62	89	13	6	2,365	2,211	4,576	2,494	2,365	4,859	12,815	12,449	25,264	13,059	13,353	26,412
6. Iowa	156	15	171	13	86	31	41	748	653	1,401	694	736	1,430	5,513	5,546	11,059	8,696	9,018	17,714
7. Kansas	192	15	207	36	145	24	2	1,067	984	2,051	1,026	1,000	2,026	5,437	5,275	10,712	8,526	8,439	16,965
8. Michigan	217	29	246	55	121	57	13	2,274	2,214	4,488	2,807	2,733	5,540	14,595	15,117	29,712	24,635	26,744	51,379
9. Minnesota	97	24	121	2	28	91	0	41	39	80	31	31	62	2,013	2,131	4,144	9,028	9,690	18,718
10. Missouri	126	48	174	24	119	16	15	857	794	1,651	973	931	1,904	8,831	8,939	17,770	10,293	10,587	20,880
11. Nebraska	148	13	161	0	144	17	0	0	0	0	0	0	0	4,786	4,644	9,430	5,672	5,677	11,349
12. New Mexico	43	1	44	13	19	11	1	464	439	903	414	451	865	1,701	1,602	3,303	2,823	2,880	5,703
13. North Dakota	61	4	65	11	44	6	4	161	161	322	251	202	453	1,042	1,457	2,499	1,841	1,946	3,787
14. Ohio	389	36	425	208	151	51	15	7,051	7,676	14,727	8,293	7,852	16,145	22,454	23,600	46,054	29,500	30,688	60,188
15. Oklahoma	130	4	134	6	70	56	1	209	205	414	174	187	361	2,862	2,711	5,573	7,862	8,046	15,908
16. South Dakota	77	2	79	2	63	7	7	15	7	22	10	8	18	2,004	2,093	4,097	2,328	2,571	4,899
17. West Virginia	159	2	161	103	43	15	0	4,634	4,514	9,148	4,152	4,188	8,340	7,829	7,912	15,741	9,678	10,494	20,172
18. Wisconsin	129	25	154	19	94	33	8	638	589	1,227	657	566	1,223	8,867	8,742	17,609	13,604	13,793	27,397
19. Wyoming	30	1	31	12	18	1	0	333	316	649	291	304	595	1,220	1,323	2,543	1,338	1,317	2,655
Dep. Schools	18	0	18	10	8	0	0	121	112	233	128	95	223	281	305	586	261	238	499
Totals: 1951	2,748	339	3,087	647	1,822	479	138	23,930	23,831	47,761	25,289	24,614	49,903	151,961	156,165	308,126	201,042	208,894	409,936
Totals: 1950	2,736	338	3,074	656	1,858	445	115	23,855	22,338	46,193	25,609	24,915	50,524	152,335	154,541	306,876	195,835	204,849	400,684
Totals: 1949	2,737	319	3,056					22,202	21,087	43,289	24,020	23,553	47,573	146,576	149,110	295,686	189,327	197,849	387,176
Totals: 1948	2,720	319	3,039					20,200	19,387	39,587	21,776	21,807	45,583	143,229	145,838	289,067	194,493	202,698	397,191
Totals: 1947	2,691	334	3,025							40,108			43,993			295,813			412,313
Totals: 1946	2,701	324	3,025							40,256			43,845			313,108			428,502

States	Enrollment in Grade 7 through Post-Graduate Work—(*Continued*)												Number of Graduates in 1950		
	Grade 11			Grade 12			Post-Graduate			Total Enrollment			Average per School			
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total		Boys	Girls	Total
1. Arizona	2,837	2,874	5,711	2,352	2,475	4,827	33	27	60	12,115	12,502	24,617	523.8	2,208	2,418	4,626
2. Arkansas	3,486	4,026	7,512	3,579	4,086	7,665	3	9	12	17,678	19,288	36,966	416	2,739	3,234	5,973
3. Colorado	4,986	5,232	10,218	4,338	4,476	8,814	50	30	80	20,341	20,781	41,122	403.1	3,428	3,473	6,901
4. Illinois	32,768	33,220	65,988	30,958	32,012	62,970	212	309	521	142,923	149,826	292,749	599.8	31,069	32,300	63,369
5. Indiana	11,410	11,134	22,544	9,824	9,956	19,780	279	129	408	52,246	51,597	103,843	610.8	10,352	10,201	20,553
6. Iowa	7,601	8,102	15,703	6,884	7,331	14,215	87	40	127	30,223	31,425	61,648	360.51	6,835	7,496	14,331
7. Kansas	7,558	7,749	15,307	6,733	7,108	13,841	235	196	431	30,582	30,751	61,333	296.4	6,653	6,736	13,389
8. Michigan	20,446	23,347	43,793	17,599	20,159	37,758	513	556	1,069	82,869	90,870	173,739	706.25	17,339	20,064	37,403
9. Minnesota	7,931	8,734	16,665	7,151	8,034	15,185	25	27	52	26,220	28,686	54,906	453	7,420	8,431	15,851
10. Missouri	8,614	9,577	18,191	8,039	8,335	16,374	18	10	28	37,625	39,173	76,798	441.4	7,618	8,238	15,856
11. Nebraska	5,365	5,583	10,948	4,634	5,014	9,648	1	2	3	20,465	20,872	41,337	256.7	4,741	5,034	9,775
12. New Mexico	2,326	2,402	4,728	1,832	1,922	3,754	18	21	39	9,578	9,717	19,295	438.5	1,768	1,831	3,599
13. North Dakota	1,485	1,839	3,324	1,469	1,660	3,129	2	6	8	6,251	7,271	13,522	208	1,280	1,640	2,920
14. Ohio	24,497	26,113	50,610	21,227	23,005	44,232	249	162	411	113,271	119,096	232,367	546.7	22,438	24,142	46,580
15. Oklahoma	6,565	6,689	13,254	5,535	5,997	11,532	31	22	53	23,238	23,857	47,095	352.9	6,057	6,186	12,243
16. South Dakota	2,031	2,320	4,351	1,682	2,059	3,741	33	8	41	8,103	9,066	17,169	217.32	1,811	2,155	3,966
17. West Virginia	7,726	8,768	16,494	6,371	7,268	13,639	38	41	79	40,428	43,185	83,613	519.3	6,016	7,025	13,041
18. Wisconsin	11,815	12,737	24,552	10,741	11,432	22,173	381	273	654	46,322	47,859	94,181	611.5	12,501	12,412	24,913
19. Wyoming	1,172	1,205	2,377	1,035	1,063	2,098	10	11	21	5,399	5,539	10,938	352.84	986	965	1,951
Dep. Schools	216	187	403	187	167	354	1	6	7	1,195	1,110	2,305	128	161	157	318
Totals: 1951	170,835	181,838	352,673	152,170	163,559	315,729	2,219	1,885	4,104	727,072	762,471	1,489,543	482.52	153,420	164,138	317,558
Totals: 1950	167,934	178,481	346,415	151,476	164,896	316,372	2,427	1,909	4,336	719,471	751,929	1,471,400	478.7	155,280	165,483	320,763
Totals: 1949	167,126	180,726	347,852	153,967	168,462	322,429	2,458	1,250	3,708	706,109	741,072	1,448,181	473.88	162,680	170,934	333,614
Totals: 1948	174,934	186,409	361,343	156,404	173,384	329,788	3,937	1,709	5,646	714,973	751,232	1,466,205	485.11	163,011	168,017	331,028
Totals: 1947			370,876			323,988			9,796			1,496,120	494.60	144,763	165,794	310,557
Totals: 1946			359,392			300,988			4,608			1,490,699	492.80	123,300	171,277	294,577

States	Pupils Graduating in Less Than		Length of Year in Days Taught in 1950–51							Schools Reporting Inadequate Clerical Help		Schools Reporting Inadequate Custodial Service	
	4 yrs. in 4-yr. H.S.	3 yrs. in 3-yr. H.S.	Less than 170	170 to 171	172 to 173	174 to 175	176 to 177	178 to 179	180 or more	No.	Percent	No.	Percent
1. Arizona	40	53	0	1	21	16	6	3	0	1	2.13	1	2.13
2. Arkansas	86	59	0	0	28	33	19	7	2	4	8.3	1	.25
3. Colorado	38	88	1	1	17	17	24	15	27	5	4.9	1	.98
4. Illinois	504	121	2	0	8	39	71	103	265	6	1	6	1
5. Indiana	714	81	4	3	14	29	62	20	38	7	4.1	8	4.7
6. Iowa	47	79	1	0	6	3	9	19	133	3	1.75	6	3.5
7. Kansas	26	44	0	0	26	68	64	19	30	39	19	2	.009½
8. Michigan	31	23	2	1	14	14	12	27	176	16	.065	2	.009
9. Minnesota	4	12	7	7	49	17	8	15	18	13	10.7	1	.1
10. Missouri	578	14	0	0	9	29	55	27	54	12	18.4	7	16.87
11. Nebraska	128	15	2	0	4	10	77	23	43	16	.099	4	.024
12. New Mexico	15	6	0	0	16	4	6	1	17	3	6.8	1	11.1
13. North Dakota	15	0	1	1	14	17	25	0	7	14	.215	1	.015
14. Ohio	412	188	5	9	41	107	112	20	131	37	8.7	6	1.4
15. Oklahoma	24	45	0	0	1	18	56	18	41	10	.14	3	.02
16. South Dakota	46	29	0	0	11	21	22	12	13	14	17	1	1
17. West Virginia	128	60	2	0	16	51	77	11	4	40	.31	10	.06
18. Wisconsin	396	121	0	0	17	29	26	7	75	12	7.8	1	.64
19. Wyoming	26	4	0	0	4	11	11	1	4	2	6.5	1	3.2
Dep. Schools	1	0	0	0	8	4	0	0	6	0	0	0	0
Totals: 1951	3,259	1,042	27	23	324	537	742	348	1,084	254	.082	63	.020
Totals: 1950	4,422	1,221	45	27	370	550	602	331	1,179	305	9.9	64	2.1
Totals: 1949			15	18	342	528	677	349	1,122				
Totals: 1948			160	77	389	615	644	372	866				

States	School Library												
	Librarians		Preparation of Librarians Hours in Library Science					Per Pupil Expenditure					
	Full Time	Part Time	None	1–5	6–15	16–23	24 or more	Less than $0.50	$0.50 to 0.99	$1.00 to 1.49	$1.50 to 1.99	$2.00 to 2.49	$2.50 to 2.99	$3.00 or more
1. Arizona	47	23	3	3	19	6	21	0	2	5	17	7	6	10
2. Arkansas	46	46	10	3	34	22	23	0	11	37	18	6	7	10
3. Colorado	102	74	28	18	29	8	32	2	10	26	16	20	7	21
4. Illinois	487	242	109	85	150	75	238	0	62	129	84	73	56	84
5. Indiana	170	84	5	4	7	37	136	4	13	63	42	12	13	21
6. Iowa	166	149	49	41	63	15	33	2	9	55	27	31	15	31
7. Kansas	90	115	23	28	109	33	41	0	12	38	41	24	26	66
8. Michigan	182	138	61	24	65	43	127	13	37	58	46	31	21	39
9. Minnesota	89	39	1	2	29	12	96	0	5	36	29	15	13	23
10. Missouri	170	95	46	19	78	24	54	1	25	38	33	25	20	28
11. Nebraska	31	130	67	83	47	13	22	1	11	30	42	37	10	30
12. New Mexico	44	20	8	4	9	8	20	0	6	9	12	9	3	5
13. North Dakota	68	47	12	11	35	3	5	0	7	22	15	10	3	6
14. Ohio	220	202	129	39	80	45	217	6	70	156	85	45	25	38
15. Oklahoma	44	89	14	12	60	18	25	0	12	39	25	23	13	19
16. South Dakota	77	69	8	27	37	12	4	1	4	19	13	15	7	20
17. West Virginia	161	69	11	19	57	26	58	8	67	65	13	3	1	4
18. Wisconsin	154	83	7	16	61	34	71	1	21	56	35	22	9	9
19. Wyoming	34	26	5	5	12	3	10	0	0	9	10	3	2	7
Dep. Schools	6	12	8	4	3	0	10	0	0	0	1	0	2	15
Totals: 1951	2,388	1,752	604	447	984	437	1,243	39	384	890	604	411	259	486
Totals: 1950	1,670	2,130	892	463	883	333	1,181	73	559	864	589	366	201	434
Totals: 1949	1,568	1,805	858	393	797	256	1,060	0	613*	903	546	380	191	391
Totals: 1948	1,591	2,282	1,166	558	836	263	1,078	115	619	952	492	321	186	331

* Less than $1.00.

States	Number of Schools with Various Pupil-Teacher Ratios										Educational Staff											
											Not Returning			New to School			Preparation of New Members					
	Less than 14.1	14.1 to 16.0	16.1 to 18.0	18.1 to 20.0	20.1 to 22.0	22.1 to 24.0	24.1 to 26.0	26.1 to 28.0	28.1 to 30.0	30.1 or more	Men	Women	Total	Men	Women	Total	Ph.D.	M.A.	Bachelor	No Degree	Less than 15 hrs. in Ed.	Inadequate Prep. in Tchg. Field
1. Arizona	7	5	6	11	6	7	5	0	0	0	98	80	178	149	91	240	4	76	160	0	2	18
2. Arkansas	5	5	9	10	23	17	10	4	5	1	158	208	366	204	213	417	0	77	332	8	15	20
3. Colorado	13	12	19	18	13	13	6	5	3	0	194	226	420	261	212	473	0	96	370	5	5	26
4. Illinois	122	41	72	71	57	65	39	11	10	0	766	1,084	1,850	946	1,122	2,068	63	3,865	2,691	318	15	31
5. Indiana	11	9	18	31	39	39	19	2	2	0	270	323	593	452	336	788	1	191	591	5	9	29
6. Iowa	27	24	40	32	30	12	5	0	1	0	296	351	647	419	308	727	3	137	579	8	30	37
7. Kansas	70	37	33	30	14	12	4	2	4	1	286	383	669	440	345	785	1	136	645	3	4	9
8. Michigan	12	4	18	31	43	55	42	23	12	6	371	616	987	596	576	1,172	3	317	844	8	25	40
9. Minnesota	23	8	8	27	22	18	13	0	1	1	135	297	432	214	270	484	1	75	407	1	3	9
10. Missouri	25	15	22	25	33	26	15	9	4	0	286	314	600	396	343	739	4	197	504	22	16	4
11. Nebraska	31	33	20	30	25	11	7	3	0	0	231	272	503	312	220	532	5	102	425	10	3	29
12. New Mexico	4	7	5	19	3	3	2	0	0	1	83	85	168	130	97	227	0	71	153	3	9	11
13. North Dakota	7	0	11	13	16	10	7	1	0	0	61	98	159	95	84	179	0	14	158	4	4	16
14. Ohio	19	16	25	62	101	91	68	37	6	0	607	691	1,298	890	651	1,541	5	300	1,209	27	14	56
15. Oklahoma	22	14	12	25	23	23	8	6	1	0	212	217	429	334	198	532	1	152	361	16	26	18
16. South Dakota	14	20	19	12	7	5	0	1	1	0	123	120	243	147	101	248	0	31	203	0	5	5
17. West Virginia	5	1	7	12	13	30	33	31	19	10	189	251	440	174	216	390	1	102	369	5	4	5
18. Wisconsin	14	7	7	24	37	33	19	5	5	3	204	374	578	310	356	666	0	112	553	1	7	1
19. Wyoming	5	3	1	8	9	3	2	0	0	0	57	57	114	82	60	142	1	36	105	0	6	5
Dep. Schools	14	1	1	2	0	0	0	0	0	0	32	63	95	42	68	110	3	62	55	0	0	0
Totals: 1951	450	262	353	493	514	473	304	140	74	23	4,659	6,110	10,769	6,593	5,867	12,460	96	6,149	10,714	444	211	369
Totals: 1950	424	255	309	492	493	457	334	112	65	16	4,469	6,435	10,904	6,307	6,118	12,515	52	2,528	9,608	251	374	378
Totals: 1949	419	283	377	440	481	473	316	144	55	19							62	2,642	10,175	400	499	
Totals: 1948	403	285	316	440	489	455	345	186	83	21							37	2,900	10,807	510	685	
Totals: 1947	396	290	353	401	463	486	354	167	83	31							51	3,367	12,370	595	656	
Totals: 1946	380	258	331	383	462	452	394	226	106	33							67	2,858	10,250	1,017	652	

States	Salaries of Superintendents (dollars)													Salaries of Principals (dollars)											
	None	Less than 2,500	2,500 to 2,999	3,000 to 3,499	3,500 to 3,999	4,000 to 4,499	4,500 to 4,999	5,000 to 5,904	5,500 to 5,999	6,000 to 6,499	6,500 to 6,999	7,000 to 7,499	7,500 or more	None	Less than 2,500	2,500 to 2,999	3,000 to 3,499	3,500 to 3,999	4,000 to 4,499	4,500 to 4,999	5,000 to 5,499	5,500 to 5,999	6,000 to 6,499	6,500 to 6,999	7,000 to 7,499	7,500 or more
1. Arizona	0	0	0	0	0	0	2	3	4	5	0	2	1	0	0	0	0	1	2	3	10	6	3	1	2	2
2. Arkansas	0	0	0	1	2	9	18	17	2	5	1	0	0	3	0	1	3	7	9	6	2	2	1	0	0	0
3. Colorado	1	0	0	0	5	13	11	11	0	1	0	0	0	8	2	1	5	11	15	9	2	1	0	3	2	1
4. Illinois	0	0	0	0	1	3	9	19	9	10	7	9	23	85	12	0	7	12	49	66	26	32	22	12	20	55
5. Indiana	0	0	0	0	0	1	0	3	1	3	0	0	1	4	0	0	0	3	17	25	30	16	23	22	16	5
6. Iowa	0	0	0	0	0	4	18	36	17	9	4	0	0	11	2	1	0	2	18	18	8	10	7	5	1	0
7. Kansas	3	0	0	0	10	22	22	12	3	3	0	1	0	7	2	0	1	12	39	32	16	12	5	0	4	1
8. Michigan	1	0	0	0	1	4	7	11	18	8	3	3	1	18	1	0	1	4	15	38	26	23	15	13	15	20
9. Minnesota	0	0	0	0	0	0	0	5	5	8	2	0	0	22	0	0	0	2	10	20	13	10	17	3	2	2
10. Missouri	0	0	0	0	6	9	10	5	2	1	0	0	0	34	3	0	7	20	32	15	9	4	5	9	4	2
11. Nebraska	0	0	0	0	21	47	37	9	2	10	0	0	0	7	1	1	1	3	6	3	2	2	4	1	0	0
12. New Mexico	0	0	0	0	0	0	0	1	5	3	0	1	0	1	0	0	0	0	2	7	10	9	3	1	0	1
13. North Dakota	2	*	0	0	1	24	23	2	2	1	0	0	0	1	0	0	1	1	1	2	3	0	1	0	0	0
14. Ohio	0	0	1	2	21	42	38	18	12	9	2	0	4	27	0	0	5	36	49	42	36	24	25	9	13	10
15. Oklahoma	0	0	0	0	3	4	17	24	4	7	3	1	0	2	0	0	3	13	12	20	10	6	5	0	0	0
16. South Dakota	0	0	1	0	10	29	19	5	0	0	0	0	0	1	0	1	0	4	2	4	2	0	1	0	0	0
17. West Virginia	0	0	0	0	0	1	0	16	15	30	19	28	52	0	0	0	2	25	68	44	15	5	0	0	1	1
18. Wisconsin	0	0	0	0	1	1	5	12	12	8	2	1	6	16	4	0	1	3	13	17	12	14	15	7	2	2
19. Wyoming	0	0	0	0	0	1	2	5	0	2	0	0	0	0	1	0	0	1	8	5	3	2	0	0	1	0
Dep. Schools	0	0	0	0	0	0	5	0	0	0	0	0	1	0	0	0	0	0	0	4	4	1	3	0	0	0
Totals: 1951	7	0	2	3	82	214	243	214	113	123	43	46	89	247	28	5	37	160	367	380	239	179	155	86	83	102
Totals: 1950	4	2	1	7	110	254	247	172	89	44	19	12	27	223	25	9	60	201	402	348	249	161	129	71	78	95
Totals: 1949	7	0	0	23	196	328	287	140	79	39	14	6	27	212	0	0	98	231	393	283	220	159	105	75	69	43
Totals: 1948	9	2	2	74	262	335	210	96	32	21	9	9	22	217	23	25	156	348	414	240	204	114	76	79	15	31
Totals: 1947	0	*	*	346	326	222	106	34	9	14	3	5	18	0	*	*	876	391	219	173	129	52	54	20	5	23
Totals: 1946	0	*	*	484	334	172	64	31	5	10	5	2	14	0	*	*	1,048	318	191	137	79	53	22	20	19	9

* Salaries not recorded under above distribution.

States	Salaries of Full Time Male Staff Members (dollars)																		
	None	Less than 2,000	2,000 to 2,199	2,200 to 2,399	2,400 to 2,599	2,600 to 2,799	2,800 to 2,999	3,000 to 3,199	3,200 to 3,399	3,400 to 3,599	3,600 to 3,799	3,800 to 3,999	4,000 to 4,199	4,200 to 4,399	4,400 to 4,599	4,600 to 4,799	4,800 to 4,999	5,000 to more	Total
1. Arizona	0	0	0	0	1	10	35	52	53	47	75	72	42	74	46	45	30	60	642
2. Arkansas	1	65	71	44	55	64	33	79	43	41	60	18	8	5	6	1	2	1	597
3. Colorado	19	3	12	29	92	106	129	149	109	70	52	34	21	11	42	59	4	1	942
4. Illinois	434	144	10	24	83	216	273	466	358	398	409	377	382	326	335	277	170	1,290	5,972
5. Indiana	20	0	0	0	26	121	150	156	141	177	205	249	262	203	158	231	150	301	2,550
6. Iowa	18	36	1	2	17	79	125	197	210	220	190	163	167	115	73	26	9	17	1,665
7. Kansas	8	3	6	0	29	78	147	232	289	270	243	186	129	77	18	3	1	5	1,724
8. Michigan	20	1	2	2	40	141	261	297	277	327	270	319	338	292	215	151	169	680	3,802
9. Minnesota	28	0	1	0	42	61	84	90	100	120	171	176	147	137	160	46	30	16	1,408
10. Missouri	173	12	20	54	161	155	157	164	120	119	95	62	46	32	154	23	5	4	1,556
11. Nebraska	15	6	0	2	37	92	117	150	170	95	99	129	73	8	3	1	0	1	998
12. New Mexico	0	0	0	0	0	26	36	49	65	54	67	47	59	39	24	18	5	9	498
13. North Dakota	11	1	1	0	4	22	27	57	66	65	38	30	27	17	4	2	1	1	374
14. Ohio	128	4	37	130	310	420	438	492	496	393	410	415	488	343	293	149	246	41	5,233
15. Oklahoma	11	3	10	32	124	142	144	134	105	87	84	104	71	63	35	25	11	13	1,198
15. South Dakota	0	0	0	0	16	57	82	74	80	60	76	32	22	12	5	4	2	0	532
17. West Virginia	4	156	108	127	188	160	244	143	146	59	55	35	22	15	8	4	2	4	1,480
18. Wisconsin	103	13	2	6	28	75	145	208	199	189	195	169	236	188	210	165	68	40	2,239
19. Wyoming	0	0	0	0	3	27	30	34	37	29	32	33	28	14	7	4	0	2	280
Dep. Schools	0	10	0	0	0	0	0	0	0	0	0	28	6	11	0	2	1	3	61
Totals: 1951	993	457	281	452	1,256	2,052	2,657	3,223	3,064	2,820	2,826	2,678	2,574	1,982	1,796	1,236	906	2,489	33,742
Totals: 1950	837	309	302	512	1,203	1,944	2,422	3,182	2,956	2,841	2,877	2,413	2,226	1,687	1,581	898	1,066	1,882	30,970
Totals: 1949	732	344	308	532	1,326	2,129	2,570	3,330	3,310	2,843	2,832	2,257	1,741	1,128	1,225	986	1,099	674	29,467
Totals: 1948	755	314	435	846	1,875	2,507	3,128	17,768*											27,628
Totals: 1947		1,966	1,599	2,291	3,198	3,430	2,843	7,803*											23,130
Totals: 1946		2,523	1,810	2,213	3,162	2,843	1,988	5,371*											19,910

* For 1948 and prior years this bracket read "3,000 or more."

States	Salaries of Full Time Female Staff Members (dollars)																		
	None	Less than 2,000	2,000 to 2,199	2,200 to 2,399	2,400 to 2,599	2,600 to 2,799	2,800 to 2,999	3,000 to 3,199	3,200 to 3,399	3,400 to 3,599	3,600 to 3,799	3,800 to 3,999	4,000 to 4,199	4,200 to 4,399	4,400 to 4,599	4,600 to 4,799	4,800 to 4,999	5,000 or more	Total
1. Arizona	0	0	0	0	2	18	30	36	32	33	23	44	35	60	44	42	24	60	483
2. Arkansas	29	295	183	108	106	94	36	62	9	11	3	3	0	0	0	0	0	0	939
3. Colorado	60	31	12	44	131	153	134	91	66	40	35	6	14	16	54	51	7	0	945
4. Illinois	793	324	35	61	264	444	434	631	393	332	321	306	303	271	279	213	127	2,091	7,622
5. Indiana	21	1	6	1	41	131	151	171	171	154	148	233	243	161	156	263	102	241	2,395
6. Iowa	107	27	2	18	78	305	303	205	173	105	82	69	89	42	38	15	2	0	1,660
7. Kansas	61	63	11	30	181	335	353	251	121	39	35	79	17	4	0	0	0	0	1,580
8. Michigan	167	43	9	10	154	326	295	360	284	233	205	182	229	298	170	107	183	600	3,855
9. Minnesota	197	18	8	6	87	105	113	159	126	111	126	134	94	120	147	50	0	0	1,602
10. Missouri	201	109	112	199	313	206	129	88	92	53	54	35	40	26	265	23	0	0	1,945
11. Nebraska	44	26	5	14	138	251	217	101	31	20	33	127	77	1	0	0	0	0	1,085
12. New Mexico	7	0	0	0	0	30	38	56	50	72	58	56	22	24	29	2	3	0	447
13. North Dakota	29	1	1	3	18	92	79	61	18	16	2	3	2	0	0	0	0	0	325
14. Ohio	335	28	110	241	449	418	462	459	390	283	254	290	386	376	403	78	189	12	5,163
15. Oklahoma	3	19	47	173	246	261	205	112	81	67	125	66	15	4	6	1	0	1	1,432
16. South Dakota	12	8	0	3	41	91	115	64	29	27	12	2	0	0	0	0	0	0	404
17. West Virginia	2	157	193	181	347	298	295	171	169	25	16	8	4	4	3	1	0	0	1,874
18. Wisconsin	204	67	3	10	104	225	205	178	153	124	160	137	116	73	148	143	48	13	2,201
19. Wyoming	1	8	0	1	6	21	53	38	37	27	22	11	8	1	1	0	9	7	251
Dep. Schools	0	17	0	0	0	2	0	0	0	0	0	83	8	0	7	2	1	0	120
Totals: 1951	2,273	1,242	737	1,103	2,796	3,806	3,647	3,294	2,425	1,772	1,714	1,874	1,702	1,481	1,750	991	695	3,025	36,327
Totals: 1950	1,617	1,149	869	1,185	3,072	4,145	3,850	3,267	2,355	1,735	1,813	1,806	1,671	1,362	1,658	881	972	2,430	36,096
Totals: 1949	1,530	1,587	1,442	1,936	4,144	4,695	3,771	2,745	2,162	1,872	1,894	1,508	1,526	888	1,190	1,264	1,805	361	36,320
Totals: 1948	1,722	2,271	2,218	3,717	5,331	4,097	3,041	14,397*											36,394
Totals: 1947	0	8,715	5,330	3,966	2,742	2,230	1,808	7,116*											31,907
Totals: 1946	0	14,686	5,080	3,027	2,276	2,122	1,250	5,941*											34,382

* For 1948 and prior years this bracket read "3,000 or more."

INDEX TO VOLUME XXVI

Accredited Higher Institutions Outside North Central Association Territory, 45–54.

Accredited Institutions of Higher Education, List of, 31–44.

Action of Reviewing Committees on Annual Reports. (Secondary Schools), 67.

Association of American Universities, 53–54.

Association Notes and Editorial Comments, 157–160; 243–247; 309–319.

Boardman, Charles W., "High School-College Curriculum Articulation in Minnesota," 195–201.

"Boards of Education and the North Central Association," W. C. Jacquin, 248–251.

Bokhari, Ahmed S., "Education for the Improvement of Human Relations at the International Level," 258–265.

"Challenges to Schools for Teaching Improved Family Relations," Evelyn Millis Duvall, 273–275.

"Church College Re-examines Its Purpose, A," L. L. Haynes, Jr., 342–344.

Commission on Colleges and Universities, Proceedings of the, 10–31.

Commission on Secondary Schools, Proceedings of the, 55–67.

"Community School Builds Human Relations, The," Edward G. Olsen, 174–180.

Composition of the Reviewing Committees (on Secondary Schools), 60–67.

"Conference on Intercollegiate Athletics," J. B. Edmonson, 252.

Constitution of the Association, 147–154.

"Contributions of Indianians to the Work of the North Central Association," Chauncey Gordon Winston, 354–357.

Cooper, Russell M., "Role of the Liberal Arts College in a National Emergency," 188–189.

Criswell, E. H. "Dealing With High School Fraternities and Sororities: A Panel Discussion," 345–346.

"Dealing With High School Fraternities and Sororities: A Panel Discussion," E. H. Criswell, 345–346.

Duvall, Evelyn Millis, "Challenges to Schools for Teaching Improved Family Relations," 273–275.

Edmonson, J. B., "Conference on Intercollegiate Athletics," 252.

"Education and the Basic Human Issue," Harlan W. Hamilton, 168–173.

"Education for the Improvement of Human Relations at the International Level," Ahmed S. Bokhari, 258–265.

"Education for the Improvement of Human Relationships at the Community Level," James A. Lewis, 266–272.

"Education of Teachers in a Period of National Emergency: A Panel Discussion," John E. Jacobs, 347–349.

Eells, Walter Crosby, "Standards for Private Schools in the Republic of the Philippines," 302–306.

Fisher, L. B., "Further Activities of the Contest Committee of the Commission on Secondary Schools," 202–226.

"Further Activities of the Contest Committee of the Commission on Secondary Schools," L. B. Fisher, 202–226.

Gardner, John W., "Human Relationships at the International Level," 161–167.

"General Legislative Needs for the Public Junior College in the North Central Association Area," Raymond J. Young, 287–294.

"Growth in General Education," Sister Mary Josetta, R.S.M., 361–416.

Hamilton, Harlan W., "Education and the Basic Human Issue," 168–173.

Haynes, L. L., Jr.,"A Church College Re-examines Its Purpose," 342–344.

"Higher Education in a Balanced Concept of National Security," Charles E. Odegaard, 181–187.

Higher Institutions Outside North Central Association Territory, Accredited, 45–54.

"High School-College Curriculum Articulation in Minnesota," Charles W. Boardman, 195–201.

Holley, J. Andrew, "Next Steps in the Study of High School-College Relations," 320–331.

"How Shall We Prepare Teachers for Participation in Family Life Education?" B. F. Timmons, 281–286.

"Human Relationships at the International Level," John W. Gardner, 161–167.

"Impact of Military Service on Educational Planning," Harland W. White, 190–192.
"Implications of Education for Improved Family Life for Secondary School Programs," E. W. Stubbs, 276–280.
"Improving High School-College Relationships," Paul R. Pierce, 193–194.
"Innovating Practices in Schools: A Panel Discussion," Earl R. Sifert, 350–353.
Jacobs, John E., "Education of Teachers in a Period of National Emergency: A Panel Discussion," 347–349.
Jacquin, W. C., "Boards of Education and the North Central Assocation," 248–251.
Lewis, James A., "Education for the Improvement of Human Relationships at the Community Level," 266–272.
List of Accredited Institutions of Higher Education, 31–44.
List of Member Schools by States (Secondary Schools), 68–131.
Member (Secondary) Schools by States, List of, 68–131.
Middle States Association of Colleges and Secondary Schools, 45–56.
Morgan, Russell V., "A Program of Music Education," 227–229.
New England Association of Colleges and Secondary Schools, 47.
"Next Steps in the Study of High School-College Relations," J. Andrew Holley, 320–331.
Northwest Association of Secondary and Higher Schools, 52–53.
Odegaard, Charles E., "Higher Education in a Balanced Concept of National Security," 181–187.
Official Roster of the Association, 1–7.
Olsen, Edward G., "The Community School Builds Human Relations," 174–180.
Operation of the Accrediting Procedure, 21–31.
Pierce, Paul R., "Improving High School-College Relationships," 193–194.
"Place and Function of Music in the Secondary Schools, The," Alex Zimmerman, 230–232.
Policies, Regulations, and Criteria for the Approval of Secondary Schools, 131–144.
"Problems of Intercollegiate Athletics as They Affect Secondary Schools," Charles A. Semler, 253–257.
Proceedings of the Commission on Colleges and Universities, 10–31.
Proceedings of the Commission on Secondary Schools, 55–67.
"Program of Music Education, A," Russell V. Morgan, 227–229.
Publications of the North Central Association, 155–156; 240–241; 307–308; 429–430.
"Quality Evaluation of D and F Grades—A Survey of Current Practice," Dwight B. Yntema, 332–341.
Report of the Board of Review and the Commission on Colleges and Universities, 13–15.
Report of the Secretary, 8–9.
Report of the Secretary (of the Commission on Colleges and Universities), 10–13.
Report of the Secretary to the Commission (on Secondary Schools), 55–59.
"Role of the Liberal Arts College in a National Emergency," Russell M. Cooper, 188–189.
Rules of Procedure, Commission on Secondary Schools, 144–147.
Semler, Charles A., "Problems of Intercollegiate Athletics as They Affect Secondary Schools," 253–257.
Sifert, Earl R., "Innovating Practices in Schools: A Panel Discussion," 350–353.
Sister Mary Josetta, "Growth in General Education," 361–416.
Southern Association of Colleges and Secondary Schools, 48–52.
"Standards for Private Schools in the Republic of the Philippines," Walter Crosby Eells, 302–306.
Statement of Policy Relative to the Accrediting of Institutions of Higher Education, 15–21.
Statistical Information About Secondary Schools Accredited by the Association, 1950–51, Edgar G. Johnston, 417–425.
Stubbs, E. W., "Implications of Education for Improved Family Life for Secondary School Programs," 276–280.
Timmons, B. F., "How Shall We Prepare Teachers for Participation in Family Life Education?" 281–286.
Treasurer's Report, 233–239.
"Use and Value of G.E.D. Tests for College Entrance of Veterans of the Armed Forces," H. Pat Wardlaw, 295–301.
Wardlaw, H. Pat., "The Use and Value of

G.E.D. Tests for College Entrance of Veterans of the Armed Forces," 295–301.
White, Harland W., "Impact of Military Service on Educational Planning," 190–192.
Winston, Chauncey Gordon, "Contributions of Indianians to the Work of the North Central Association," 354–357.
Yntema, Dwight B., "Quality Evaluation of D and F Grades—A Survey of Current Practice,'" 332–341.
Young, Raymond J., "General Legislative Needs for the Public Junior College in the North Central Association Area," 287–294.
Zimmerman, Alex, "The Place and Function of Music in the Secondary Schools," 230–232.

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1. "Statement of Policy Relative to the Accrediting of Higher Institutions, Operation of the Accrediting Procedure," July 1, 1941

[1] Unless otherwise indicated, address communications to the Secretary, North Central Association of Colleges and Secondary Schools, Charles W. Boardman, College of Education, University of Minnesota, Minneapolis.

2. Annual list of institutions of higher education accredited by the Commission on Colleges and Universities
3. "Principles of Freedom in Teaching and Research." An extract from *The Evaluation of Higher Institutions*, Vol. II. *The Faculty*
4. "Report of the Committee on Physical Education and Athletics," June, 1933
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